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Matching Fund

MARKETING SERVICE PROGRAMS

CONDUCTED BY
STATE DEPARTMENTS OF AGRICULTURE
UNDER THE
AGRICULTURAL MARKETING ACT OF 1946
IN COOPERATION WITH
AGRICULTURAL MARKETING SERVICE
U.S. DEPARTMENT OF AGRICULTURE
JULY 1, 1962 - JUNE 30, 1963

JANUARY 1965

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
WASHINGTON, D.C.

CONTENTS

	Page
Introduction	1
Examples of marketing service work by major commodities and by fields of activity:	
Dairy Products	5
Quality improvement	5
Market expansion	8
Marketing efficiency	9
Marketing information	10
Poultry and Eggs	10
Quality improvement	10
Market expansion	13
Marketing efficiency	14
Marketing information	15
Fruits and Vegetables	16
Quality improvement	16
Market expansion	20
Marketing efficiency	23
Marketing information	25
Livestock and Livestock Products	28
Quality improvement	28
Market expansion	29
Marketing efficiency	30
Marketing information	31
Grain and Seed	31
Quality improvement	32
Market expansion	32
Marketing efficiency	32
Marketing information	33
Cotton and Tobacco	35
Other Commodities and Services	37
Timber and timber products	38
Maple syrup and honey	38
Natural crops	39
Kona coffee	39
Cooperatives	39
Transportation	40
Some recent marketing publications, by States	41
List of matching fund projects, by States	45

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STATE DEPARTMENTS OF AGRICULTURE
under the Agricultural Marketing Act of 1946

In cooperation with U. S. Department of Agriculture
(July 1, 1962 - June 30, 1963) 1/

INTRODUCTION

Matching fund marketing service programs conducted by State Departments of Agriculture under the authority of the Agricultural Marketing Act of 1946 were started in 1947. These programs are conducted under cooperative agreements between State departments of agriculture or similar State agencies responsible for marketing service work, and the Agricultural Marketing Service. Individual projects are submitted by the States and approved by the Agricultural Marketing Service. During 1962-63, 42 States conducted 127 separate projects. These States were:

Alabama	Louisiana	North Dakota
Alaska	Maine	Ohio
Arkansas	Maryland	Oklahoma
California	Massachusetts	Oregon
Colorado	Michigan	Pennsylvania
Connecticut	Minnesota	South Carolina
Florida	Mississippi	South Dakota
Georgia	Missouri	Tennessee
Hawaii	Montana	Texas
Illinois	Nebraska	Vermont
Indiana	New Jersey	Virginia
Iowa	New Mexico	Washington
Kansas	New York	West Virginia
Kentucky	North Carolina	Wisconsin

The office of the Matching Fund Program, Agricultural Marketing Service, provides guidance and assistance in conducting these programs and cooperates with the States in planning and conducting an annual National Marketing Service Workshop. The 1962 meeting was held in Louisville, Ky., where 250 representatives from 38 States, Puerto Rico, and the District of Columbia discussed three major topics--opportunities for expanding foreign markets for U. S. farm products, organizing for selling in the current mass merchandising environment, and commodity promotion programs for farm products.

Representatives from State departments of agriculture serve on an advisory committee on cooperative work under the Agricultural Marketing Act, which provides general policy guidance in the Federal and State administration of the

1/ Material in this report was compiled by Edward Hansen, Matching Fund Program, Agricultural Marketing Service, U. S. Department of Agriculture

Matching Fund Program. Members of that committee in 1962-63 were: L. Y. Ballentine, North Carolina, chairman; George H. Chick, Maine; Spencer Duncan, New York; Roy Freeland, Kansas; and Donald E. Wilkinson, Wisconsin.

To assure that all available knowledge and resources are utilized in planning, developing, and carrying on the projects and to prevent duplication of effort, State departments of agriculture work closely with producer, industry and trade groups, commodity marketing commissions, State extension services, agricultural experiment stations and various agencies of the U.S. Department of Agriculture. Over the years, a closer working relationship has developed between matching fund personnel in the various States. The national workshops, along with occasional informal area meetings on specific problems, are helping to bring this about. Also, visits by State personnel to other States conducting matching fund projects allow State specialists to exchange new ideas and techniques, profit from the experience of others, and coordinate their work with that done in the other States. Interstate visits provide a means of training new employees as well as of broadening the horizons of experienced personnel.

Services performed under these programs helped many producers, cooperatives, and private firms engaged in assembling, processing, transporting, storing, wholesaling, and retailing of agricultural products make adjustments which permitted them to compete more effectively during a period of widespread, significant, and almost continuous change in practices employed in the production and marketing of agricultural commodities. The programs also had a part in providing consumers with high-quality products, many in more convenient packages, or on a "ready-to-use" basis. Prices for these items reflected savings from greater efficiency in the marketing process.

Activities under the program were carried on under four general areas of work:

A. Maintaining or improving the quality of agricultural products in marketing channels

Program projects are classified in this field when their purpose is to show persons or firms engaged in marketing how to maintain or improve the quality of the products they handle so that deterioration and spoilage may be reduced and products placed before consumers in the best possible condition. This field embraces such activities as (a) checking products at various stages in the marketing channel to determine off-quality products, ascertaining the cause of the loss of quality, and showing the persons or agencies concerned what steps should be taken to correct the condition; (b) showing farmers and marketing agencies how to determine the proper maturity of products for harvesting; (c) demonstrating proper methods of picking, packing, handling, and transporting products in order to protect quality and to separate products into quality groups, and encouraging the use of Federal and Federal-State grades; (d) establishing criteria for placing products in quality groups for State grading programs for items not covered by Federal or Federal-State grades or for other purposes; (e) developing techniques and procedures for certifying disease-free

nursery stock; (f) giving assistance on methods of preventing deterioration of products in storage; (g) determining and showing marketing firms what containers will best protect quality; and, (h) any other service activities designed principally to maintain quality.

B. Developing new and expanded markets for farm products

Projects designed to develop new and expanded markets for farm products are placed in this group. These include (a) special efforts to move seasonal surpluses into consumption by coordinating efforts with the Plentiful Foods Program and with commodity associations; (b) determining and reporting to farmers and marketing agencies the variety, size, type of package, and merchandising method preferred by consumers, wholesalers, and retailers; (c) working with local school administrators and the Food Distribution Division, AMS, USDA, to implement the School Lunch and School Milk Programs; (d) preparing and issuing buyers' guides and engaging in other activities to bring buyers to sources of supply; (e) developing markets for new products and developing new uses and outlets for established products; (f) assisting in determining where and how additional outlets can be established and providing promotional groups assistance in evaluating and redirecting promotional efforts; and (g) expanding consumer services, including dissemination of information on maturity and availability of foods in abundant supply at reasonable prices, and how to use official grades in identifying quality characteristics of food offered in retail stores.

C. Assisting marketing agencies in reducing costs and improving efficiency

The projects placed in this field are those designed to show marketing agencies how to reduce their costs and improve their efficiency through such means as (a) helping producer groups and marketing agencies determine the proper size, type, location, and layout for all types of processing and marketing facilities; (b) showing them how to select, install, and use the kinds of handling methods and equipment best suited to their needs; (c) assisting them in improving the efficiency of processing methods and techniques; (d) demonstrating more efficient ways of performing various marketing operations such as packaging, storing, loading, and transporting; (e) assisting in appraising needed changes in management techniques and in effecting mergers and consolidations of two or more organizations where desirable in the interest of efficiency or broadening of product base; and (f) assisting in obtaining reduced freight rates and improved transportation protective services.

D. Collecting and disseminating marketing information

Program projects placed in this category include those for the collection, tabulation, and dissemination of statistical data and other marketing information which aid the marketing decisions of farmers and marketing agencies. Such information might include (a) acreage, yield, number and age of trees, variety, production, and storage holdings for a State or subdivision of a State; (b) determination of objective methods of forecasting production and marketing; (c) special information on a State or local basis on maturity, probable dates of harvest, quality, market movements, trends, etc.; and (d) experimental market news services for local markets or a group of local markets. The activities included in (a) and (b) are closely coordinated with the work of the Federal-State Crop Reporting Service and the Federal-State market news services.

In addition to the above fields of work, matching fund personnel gave increased attention to problems facing producers occasioned by the continued trend toward concentration of buying power in fewer and fewer hands. The resultant emphasis on contractual and/or specification buying, and the increased integration of production and processing facilities under one common ownership have altered the traditional producer-buyer relationships. Matching fund personnel in some States actively assisted producer groups and local marketing agencies organize their selling or bargaining strength so they could more effectively serve the needs of the large volume buyers. In recognition of the importance of this type of service, a new category of matching fund work, concerned with improving the organizational structure of the marketing system, was authorized toward the close of the reporting year.

To provide a panorama of the scope of marketing services performed under matching fund programs, examples of work done and progress made in various States are described on a commodity basis by fields of activity. States which participated in the program during the period 1962-63 along with a description of their projects are listed at the end of this report. A list of publications issued by the States in connection with the projects is also included.

DAIRY PRODUCTS

Quality Improvement

Projects designed to maintain and improve the quality of dairy products were conducted by departments of agriculture in 14 States. These were: Alaska, Connecticut, Indiana, Kansas, Kentucky, Massachusetts, Minnesota, Mississippi, Montana, North Dakota, Oklahoma, Vermont, Washington, and Wisconsin. Emphasis under these projects was placed on reducing economic losses to the dairy industry brought about by such factors as bacterial contamination, inadequate sanitary safeguards, improper use and maintenance of equipment, antibiotic and pesticide residues, lax handling and management practices both at farm and plant, and decline of consumer demand for fluid milk due to off-flavors.

Efforts to improve milk quality in Connecticut, Vermont, and Massachusetts were directed primarily at minimizing the incidence of feedy, barny, malty, rancid, oxidized and other undesirable flavors in milk. Help was given producers in eliminating specific flavor defects by advising them on changing and regulating feeding practices, improving sanitation and ventilation in milking parlors, using chelating agents and more selective using of cleaning agents, redesigning equipment to prevent excessive foaming, and improving overall dairy management practices.

In these States, as well as others concerned with this problem, taste panels, flavor improvement clinics, and visits from project personnel aided producers, plant personnel, and truckers (samplers and gaugers) to become aware of various flavor deviations and how such off-flavors could be avoided through the techniques outlined above. There were numerous instances where producers were able to regain lost markets by applying such techniques.

Wisconsin conducted a project in which bulk milk samples in selected manufacturing milk markets were subjected to a catalase test to detect the presence of abnormal milk. (Catalase decomposes hydrogen peroxide by liberating oxygen and is precipitated in the casein when milk is coagulated.) Abnormal milk includes milk from mastitic or otherwise unhealthy animals, stripper milk or colostrum. It is not desirable for human consumption and is often a carrier of micro-organisms which produce undesirable flavors. Purpose of the Wisconsin project was to teach plant personnel the techniques for conducting a catalase test and to show them the advantage of eliminating abnormal milk from the plant supply. Cottage cheese plants were particularly interested in the tests, since they were aware of the serious effect of abnormal milk on the shelf life of cottage cheese. The study revealed that the catalase test is effective if used by a dairy plant or enforcement agency as a screening tool only. No enforcement programs were recommended as a result of the tests.

A new project which seeks to develop standards and techniques for sampling and testing for sediment in farm bulk tanks was started in Washington. Such standards were needed because techniques previously employed to detect sediment in milk transported in cans were not adaptable when applied to bulk tanks.

Wisconsin, Kansas, Minnesota, Montana, and Mississippi devoted considerable effort to the problems of sedimentary, bacterial, and other undesirable contamination of milk and milk products. A new program of monthly bacterial testing of manufactured milk was introduced in Kansas in 1962. This program stimulated plant operators to do more field work with producers and to look to State personnel to train their fieldmen on causes of excessive sediment and high bacterial count. With this knowledge they were better able to help farmers whose milk was placed in an unacceptable category because of bacterial infection.

A study made in Wisconsin to determine ways in which the wholesomeness of dairy products could be improved confirmed previous findings that coliform contamination in ice cream was directly related to the use of fluid milk returned from commercial outlets and the use of outmoded, or badly worn equipment. These findings spurred some ice cream manufacturers to change their procurement practices as well as to modernize their equipment.

In Montana, random samples of butter, ice cream, ice cream mix, and cottage cheese were picked up at irregular intervals at dairy plants and wholesale and retail outlets. These samples were sent to Montana State College for testing of quality and bacteriological factors that affect the initial quality and "shelf life" of dairy products. Where significant defects were noted, project personnel worked with plants involved to uncover causes and suggest ways that the defects could be corrected. Compared to past years, quality scores improved, and bacteria, coliform, yeast, and mold counts decreased for most products.

To help guide them in developing programs that assure consumers safe, clean, and wholesome soft-serve dairy products, the Mississippi Department of Agriculture developed a procedure whereby bacterial and coliform counts were made at retail establishments throughout the State. The need for such a program was accentuated by the steadily increased consumption of this product, and the fact that the many small retail outlets gave varying degrees of attention to sanitary management practices.

By means of a mobile laboratory, equipped to make bacterial checks, Minnesota was able to provide test results to dairy processing plants in a shorter period of time. Immediate followup checks were also possible to test the effectiveness of any measures taken to overcome bacterial contamination. The samples were taken under normal operating conditions and at various points in the plants. Many desirable improvements in sanitation practices, equipment use, and overall plant management were made as a result of these bacterial checks.

Indiana helped its dairy industry adjust to a new regulation requiring manufacturers to notify producers of bacterial test results, by designing reporting forms, issuing leaflets on clean milk production, and providing

instructions on the proper method of making methylene blue tests of bacteria count in milk. Latest information on technological advancements in the dairy industry was discussed with plant personnel, dairy fieldmen, and producers.

Wisconsin, Kansas, and Oklahoma continued project work to reduce the incidence of antibiotic and pesticide residues in milk. In Kansas, laboratory tests were conducted on producer and market milk and when a positive test was obtained, fieldmen visited farms or plants concerned to collect additional samples and to assist in determining the cause. In these States, specialists expended considerable effort in making producers and plant managers aware of health hazards and marketing problems inherent in such residues, and in showing how this situation could be avoided through proper use of antibiotics and pesticides and through checking of feed supplies for residues.

A study of water adulteration in milk by means of cryoscopic tests in Kansas revealed that a few cases were deliberate acts by producers but a number of cases of adulteration were due to improper rinsing and draining of milking utensils and careless milking and handling procedures. In areas where frequent tests were conducted and followup visits were made to affected farms to demonstrate proper methods of cleaning and handling equipment, a marked decrease in water adulteration was noted.

North Dakota continued to concentrate on helping producers now marketing whole milk for manufacturing, who previously sold only farm-separated cream for such purposes. Personal visits were made to these producers to guide them in making necessary equipment changes to conform to new and stricter dairy laws. In cooperation with the State health department, staff personnel made farm checks and obtained milk samples from producers of grade A fluid milk at various times throughout the year to insure proper adherance to the new standards.

Although there has been a sharp decline in the amount of milk marketed in cans, a number of manufacturers in Mississippi and Kentucky still purchase milk in this manner. To help prevent quality deterioration attributable to defects and to milkstone in these cans, project personnel made spot checks and gave instructions to plant operators and producers on the approved methods to follow in cleaning and maintaining equipment. Kentucky conducted special demonstrations on the cleaning of milking machines. Also, 12,000 dairymen in that State were scored by dairy specialists on factors relating to quality. Specialists worked with farmers and plant fieldmen in laying out milking parlors to help producers qualify for price bonuses which were related to the quality of milk produced.

In order to answer specific questions raised by dairies, as well as some retailers, on the effect of the type of delivery service on milk-shelf-life quality, Wisconsin made a survey of retail stores which had milk delivered to their docks, or which received direct dairy-case service. Plate counts made at a sample group of stores on some of the slower moving items such as two-percent skim milk, half and half, whipping cream, and chocolate milk revealed about twice as many high counts in stores receiving dairy-case service. It was found that stores having dock deliveries generally had adequate cooler and display space to hold and handle the volume received at proper temperature levels.

In Alaska, a comprehensive 60-day study was made of the dairy industry by a dairy specialist from a midwestern State. The gross income from milk in Alaska is $2,300,000, which is 56 percent of the gross income from all agricultural commodities. Six plants in Alaska now process fluid-milk products and manufacture ice cream, ice milk, and cottage cheese. There are no other processing operations to which surplus or undergrade milk can move. Many problems face the dairy industry, including the lack of modern equipment in most of the plants. Plans were underway to modernize existing plants by remodeling, installing short-time plate pasteurizers, providing for more adequate cooler space, converting to bulk handling, and installing modern filling facilities.

Market Expansion

Illinois, Louisiana, Maine, New York, Minnesota, North Carolina, Texas, Virginia, and Washington carried on projects designed to expand market outlets for dairy products. Most States involved in dairy quality improvement work also devoted some time to such endeavors. Activities were closely coordinated with dairy industry promotion efforts such as June Dairy Month. State department personnel gave demonstrations and talks to professional groups such as school lunch managers, home economists, restaurant personnel, and retail store associations, pointing out the taste appeal and nutritive value of milk products and the many ways they could be prepared to stimulate greater consumer usage. Many States had dairy booths at State fairs where attractively packaged dairy products and eye-catching charts and illustrations were used to make the public aware of the virtues of dairy products as a food.

North Carolina, Maine, and Illinois placed special emphasis on increasing milk consumption among children and teenagers, and worked closely with administrators of the Special Milk and National School Lunch Programs. This was a logical area for promoting milk since children are forming long-lasting dietary habits, milk is readily available under the National School Lunch and Special Milk Programs, and teaching of good health habits is part of the curriculum.

To demonstrate that dairy products are profitable items and that their sales can be increased through full utilization of good merchandising techniques, Washington continued work on a project dealing with in-store testing of retail, dairy-department merchandising. Various types of displays were tested in four retail stores. Conclusions were reached that stock arrangement should follow three courses which include basic attention to departmentalization, sectionalizing, and vertical display. For example, cheese sales were increased when all cheese was in one section of the dairy case with individual shelves or sections for sliced, packaged, specialty-packaged, and bulk cheese. In the bulk-cheese section, vertical groupings were made for various ages of cheddar, for swiss, and for specialty types. Using such techniques, sales in tested markets increased 21.7 percent while gross margins jumped 23 percent. Other techniques which the study found effective were the placing of milk and eggs in opposite ends of the case to draw customers the full length of the case in their shopping, and the placing of non-refrigerated items on top of the case (built to hang over the top) leaving the full case for items demanding complete refrigeration and display.

Specialists in Virginia helped organize special promotion features such as store-manager contests, dairy night at professional baseball games, and special luncheons or dinners featuring dairy products. These special events were helpful in focusing greater attention on milk and thus stimulating more consumer interest.

Marketing Efficiency

Marketing efficiency work in the dairy field was done in Indiana, Minnesota, Mississippi, Kansas, and Wisconsin.

Indiana conducted management workshops concerned with the reduction of ice cream production costs. Least-cost ice cream formulas were calculated for individual processors who were given intensive instructions in the use of economic-engineering techniques. These techniques involved: (1) Organization of production processes, (2) mechanical or manual operations, (3) effect of volume on costs, (4) size of plant, and (5) product mix. By following suggested programming techniques, processors attending the school learned they could reduce ingredient costs by ten cents per gallon. Considering the volume of ice cream processed by the 36 participants, use of these techniques had a potential of reducing costs by $75,000 per year.

A dairy management game involving the use of computers was developed in Indiana to train managers concerning the complex environment in which decision making takes place and to show the effects of various decisions on their business organization. A total of 36 handlers participated in this game over a six-month period. After the initial meeting to explain the game, managers mailed in monthly decisions which were processed and results were returned by mail to use in making subsequent decisions. Managers considered the game a useful and effective teaching device, particularly in stressing the importance of variables, both external and internal, to the firm in making decisions.

A three-year production and sanitation study of the dry milk industry was completed in Wisconsin. Based partly on recommendations made by project personnel, ten plants installed new milk-drying equipment, seven purchased new condensing equipment, and twelve installed new welded lines and other equipment.

By isolating and identifying fixed and variable costs, Wisconsin specialists, in a cost and efficiency study of dairy cooperatives, were able to help plant managers reduce operation and transportation costs and thus increase returns to producer members. Fifty-five cooperatives and 24 farm supply associations received confidential analyses of their costs, as compared with similar operations, to allow plant managers to judge which of their cost items were excessively high. The project revealed opportunities for achieving economies of scale through mergers and consolidation, cutting down on duplicate transportation, and obtaining more complete utilization of equipment. On this basis, two dairy cooperatives decided to merge into a single cooperative.

Matching fund personnel in Wisconsin helped promote a statewide "blue tag" heifer-calf-identification program by distributing brochures, explaining the program at farm meetings, contacting dairy producers and organizations in

establishing grade standards, and by compiling detailed information on seven factors used in evaluating the sale value of dairy cattle. Under the program, healthy, commercial-grade dairy calves ranging from two weeks to four months of age--sired by registered purebred bulls and whose sire and dam are of the same breed--are identified by a blue ear tag and by a producer certificate listing information as to origin, breeding, and age.

Wisconsin further assisted dairy marketing organizations in developing a uniform grading system for dairy replacement heifers by setting up standards which were determined through committee action and then field tested. Factors considered in developing grades included general appearance, weight, condition, color, and breed characteristics, and breeding. The grade terms used to describe animals falling into different categories were: Fancy, Select, Desirable, Utility, and Undergrade.

Marketing Information

Matching fund projects to provide more detailed marketing data for the dairy industry were supervised by State statisticians in West Virginia, Pennsylvania, Wisconsin, Florida, Minnesota, and New Jersey. Monthly publications, which included data on items such as production volume, current inventories, analysis of marketing trends, and other information of economic import to the dairy industry, were issued in West Virginia, Wisconsin, Florida, and New Jersey. Based on the number of requests received, widespread interest has developed in these reports.

Pennsylvania prepared and released a quarterly report containing basic data such as milk cow numbers kept in commercial herds, ages and breeds of cows, cow replacement cost, milk production per cow, and total production.

New York also released specific data such as per capita consumption of milk and cream in the State, number of plants by counties manufacturing various dairy products, and the volume of milk required to produce a pound of various specific products.

Kentucky completed compiling information for publication in one report of all known supply and marketing information pertaining to the dairy industry in Kentucky. This publication will contain historical supply and market information supplemented with charts and graphs designed to help those involved in the dairy industry to plan future operations.

POULTRY AND EGGS

Quality Improvement

Eggs.--Work done under matching fund projects on eggs was directly affected by the accelerated trend toward fewer and larger production units. As a result of this trend, more of the large retail store companies dealt directly with producers since many are now equipped to perform grading and packaging functions previously done in the company warehouses or by intermediate handlers.

Specialists in 25 States worked directly with producers on problems relating to washing, grading, handling, cartoning, storing, and transportation of eggs. These States were: Alabama, Alaska, Arkansas, Colorado, Florida, Georgia, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Montana, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Tennessee, Virginia, and West Virginia. Help also was given in purchasing equipment best suited to individual operations.

Extensive work was also done with retailers to show them ways that egg quality could be maintained once the eggs were delivered to the store. The importance of refrigeration, stock rotation, and product display was particularly stressed. In many instances, followups were made on specific consumer complaints to determine causes for quality defects. In tracing causes for quality defects, project personnel closely observed practices followed in handling eggs from the nest to the retail stores. A heavy incidence of checked eggs in a Kentucky operation was reduced sharply when it was found that excessive breakage was the result of gathering eggs in baskets strapped to the gatherer's waist. A black-rot problem, vexing an Arkansas processor, was solved when a producer of extremely dirty eggs was told to discontinue a practice he followed in soaking wire baskets of eggs in a fresh-water spring for periods as long as six hours.

A number of States conducted egg grading and marketing schools for the benefit of producers, dealers, and retailers.

State "Seals of Quality" or "Trademarks" were developed to help raise the quality levels of eggs marketed in a number of States. These programs require producers to meet specific production, handling, and storing standards before being qualified to market eggs under such a seal or trademark. Many such eggs moved directly from producer to retailer, and, as a rule, only retailers with proper holding facilities were authorized to sell such eggs, in order to protect the consumer image of the seal or trademark.

In Montana, a deficit egg-producing State, matching fund personnel helped develop a Gold Seal program which increased returns to the more progressive egg producers. Under the program, producers were encouraged to follow chick selection, feeding, housing, handling, and holding practices in order to supply local buyers with top quality eggs not previously available. These eggs were readily absorbed by retailers and dairies at prices which reflected premiums over other offerings. Furthermore, State personnel helped these producers to form local associations which developed and conducted local promotion programs. Through these programs producers coordinated their distribution to minimize the occurrence of unwarranted price declines caused by temporary supply-demand imbalance within the market area.

Louisiana discontinued its State egg-grading program in favor of a Federal-State supervised program, and matching fund personnel helped producers and handlers in making the transition in this operation. By having one unified grading service, better utilization was made of both State and Federal personnel, and duplication of effort was eliminated.

Increased interest was shown by a number of States in producing and marketing eggs under the USDA Fresh Fancy or State quality-control, grade A programs, in which eggs are produced, packaged, and handled according to approved procedures under supervision of a Federal or State employee. Under the USDA Fresh Fancy program, the farmer's eggs must pass a special weekly random sample breakout test for interior quality, to insure that quality is maintained at an acceptable level. This test, known as the Haugh Unit test, includes a measure of the amount of thick white in the egg. This program is especially well adapted to the newer mechanized method of egg handling and packing, such as the flash or bulk candling machines, electronic bloodspot detectors, and other new devices being tested or planned. State personnel worked closely with the Poultry Division of USDA's Agricultural Marketing Service in setting up such programs. Specialists in Kansas assisted cooperatives that marketed such eggs to develop out-of-State markets.

Matching fund personnel in New Mexico worked with the egg industry in setting up a new egg-grading law which included many features of the Model State Egg Law which was being drawn up through combined efforts of the State departments of agriculture and U. S. Department of Agriculture.

In Pennsylvania, matching fund employees cooperated with the University in conducting a hatchery sanitation program aimed at reducing baby chick mortality through control of airborne bacteria and mold. Initial results of the program showed a reduction in chick mortality from an average of three to five percent to as low as one percent.

Poultry.--Maryland matching fund marketing service personnel helped poultry processors set up and analyze quality control records. By evaluating such records, processors could determine which farms consistently supplied low-grade flocks or an exceptional number of birds with specific defects, and this helped considerably in isolating and correcting problems of quality control. Also, these records gave processors a basis for selecting growers and making special pricing arrangements.

Individual sample data collected by various plants was used by marketing specialists to arrive at conclusions that were of value to all plants in planning their procurement programs. Among conclusions reached was that handling by different catching crews had little effect on quality, provided the crews were properly trained and supervised. The use of coops with larger openings increased the speed and the efficiency of "catching" crews but close supervision was needed to deter the tendency of loaders to "push-throw" birds into the larger openings.

Breast blisters were found to be most prevalent in birds weighing 3.4 to 4.3 pounds. One plant was able to reduce breast bruises by using rubber mats on the metal beds of battery-type hauling trucks although canvas curtains were required in winter to raise inside temperatures so as to prevent freezing of water and droppings on the mats, which could cause freezing of the chickens' feet. Data on the relationship between bruising and moonlight catching nights (when the photosensitivity of birds caused them to struggle and flap) was inconclusive.

In a similar project conducted in Alabama, a project employee observed actual catching and loading operations and then followed birds through the transportation and processing phases. After working several months with ten poultry-plant operators and others involved with broiler catching, transporting, and processing, a random sampling of birds taken before and after the study revealed that the incidence of bruises was reduced from about 23 to 14 percent. It was found that downgrading could be minimized by: using clean, dry, deep litter to prevent breast blisters; placing the loading truck as near the chicken house as possible; removing equipment from the house before catching the broilers; catching small groups of chickens (200 to 300 per catch); carrying not more than four birds in each hand and holding the birds by the shanks not by thighs and wings; and being certain that the scalding and picking machines in the plant are kept adjusted and in good working order.

Market Expansion

Poultry and Eggs.--In addition to quality improvement work, most States conducting poultry and egg projects were actively engaged in promoting consumer interest in eggs and turkeys. This was done in a number of ways, including retail store demonstrations, tie-in programs with allied businesses, special egg-month promotions which were usually coordinated with national efforts, special programs for restaurants, and special releases through radio, TV, newspapers, and magazines. Some States such as North Carolina and Florida devoted considerable time to encouraging greater egg consumption among school children. Teachers were given visual and informational aids to help make children aware of the importance of eggs in their diet--particularly at breakfast.

Promotion efforts were generally carried on cooperatively with State egg commissions, councils, and trade organizations. Personnel in Minnesota helped several egg producers pool supplies in order to satisfy volume requirements of specification buyers. Louisiana personnel were instrumental in encouraging large retailers in their State, who previously relied on out-of-State supplies to obtain their requirements of high-quality eggs from local sources on a year-round basis.

Virginia specialists helped interested egg packers to interpret and apply quality and packaging specifications to qualify as bidders for Defense Subsistence Supply Center contracts, and aided them in selecting equipment best suited to their needs by arranging meetings with equipment manufacturing concerns.

In its turkey promotion program, Colorado sought to induce State consumers to buy more Colorado-grown turkeys throughout the year as well as during the holiday period. To accomplish this, help was provided the turkey industry in conducting five major promotions: Easter, Mid-Summer Turkey Time, Colorado Turkey Week, Thanksgiving, and Christmas. One promotional technique used was a $500-prize contest in which consumers described in 50 words or less why they liked Colorado turkey. In addition, each contestant was asked to answer a number of questions concerning her buying preferences for turkeys.

In California, a marketing survey requested by the Turkey Promotion Advisory Board was completed and published in August 1962 under the title, "Improving the Marketing of Turkeys." The report gave the industry an analysis of its promotional problems and recommended four ways of improving the marketing program. These suggestions were: (1) Assist turkey processors and the food trade in improving existing turkey products and in developing new, convenient, easy-to-use products; (2) assist brand owners in improving the packaging of turkey and turkey parts; (3) bring about improvements with respect to labeling; and (4) assist the food trade in improving the merchandising of turkey.

New York State initiated a grade-A-quality, frozen-whole-egg program to provide an outlet for shell-egg sizes which are frequently difficult to sell at a profit and for misshapen and stained eggs of grade A interior quality. Another objective was to satisfy convenience, quality, and laborsaving requirements of State institutions. Because of the large numbers of persons served in these institutions, considerable time and labor is involved in breaking out shell eggs. For example, time and motion studies revealed that it took 106 minutes to prepare 1,800 shell eggs and 13 minutes for the equivalent volume in a frozen form. Due to limited budgets, these institutions are frequently forced to utilize grade B eggs in the shell form but the availability of the grade A frozen product at a comparable price made it possible to serve a more palatable product at no increase in cost.

New York personnel worked closely with the industry in developing new frozen egg containers to replace the traditional 30-pound cans which are difficult to handle and stack. The goal is to develop a flexible disposable plastic container that can be automatically filled and weighed under sterilized conditions.

The New York State Department of Mental Hygiene readily accepted the new product and other mass feeders indicated a definite interest in both the product and the new packaging concepts. Representatives from other States have studied the program to determine its practicality for their States.

Eggs for breaking were obtained from New York producers approved as supply sources and these farms were regularly checked by State inspectors to make certain that proper washing, cleaning, and holding practices were followed. Breakers participating in the program had to have their plant facilities and operational procedures approved and were subject to continuous inspections during handling, packing, and freezing.

Marketing Efficiency

Arkansas. Illinois, Kansas, Louisiana, Maryland, Mississippi, New Jersey, North Carolina, Tennessee, and Virginia assisted their egg industries in adjusting to marketing changes by helping individual egg packers and poultry processors in drawing up plans for improving and/or expanding present facilities or building new plants. Egg producer-distributors and plant operators were advised on how much capital they should invest in items such as washers, automatic graders, and packers, and in cooler space. Operators of small poultry-processing plants were assisted in making changes which would qualify them to

meet State or Federal sanitation requirements. In many instances, State personnel received direct technical assistance from USDA's Transportation and Facilities Research Division.

Marketing Information

Projects involving marketing information on eggs and poultry products were carried on in the States of Alabama, Florida, Georgia, Illinois, Iowa, Kansas, Kentucky, Minnesota, Mississippi, Missouri, New Jersey, New Mexico, New York, Oklahoma, Virginia, Washington, West Virginia, and Wisconsin.

Alabama project personnel assisted the State extension service and the State statistician in conducting a detailed survey of the number of laying hens on farms. This up-to-date information was requested by the industry because of the sharp expansion in egg production since the 1959 Census of Agriculture. The survey revealed that the production trend since 1959 continued to be concentrated on relatively fewer farms. About 69 percent of the hens were used for producing eggs for the consumer market, 30 percent for producing broiler-type hatchery eggs, and 1 percent for producing egg-type hatchery eggs.

Oklahoma made a complete listing of all commercial flocks in the State as to location and size, followed by a one-time survey to obtain basic flock data to determine marketing practices. After enumeration, summarization, and analyses were completed, results were published. Mississippi made its third annual inventory of commercial egg-laying hens, identified by county and by producer's name and location. This data is vitally important to the egg industry and allied businesses since the rapid growth in the shell-egg industry has caused significant shifts in production and marketing patterns. The survey revealed that the number of independent producers has remained stationary in recent years, but increasing volumes of eggs are being produced under some type of contractual arrangement.

In Florida, initial steps were taken to expand poultry marketing statistics to include reports of egg-type pullet chicks placed on farms to provide some indication of the trend in number of layers in the State. Work also was started in establishing the number and scope of operations of producers specializing in raising replacement pullets for commercial egg flocks in the State.

Missouri matching fund market news personnel performed a much needed service for poultry and egg producers by initiating daily reporting of shell-egg, broiler, and fowl markets at various points throughout the State. Prices reported were those farmers received for eggs sold on a consumer-graded basis and for unclassified eggs moving to breaking outlets. Daily "at-farm" prices were reported on turkeys during the active trading season. State personnel received technical assistance from the USDA market news service and prices reported on eggs moving to Missouri breakers were incorporated into a Federal-State central States area report, while those on broilers were released in a combined at-farm Arkansas-Missouri report. Iowa developed information on egg supply potentials by counties and crop reporting districts, and as a byproduct released a first-of-the-year inventory of hens on farms.

Quality Improvement

The improvement and maintenance of the quality of fruits and vegetables were the major aims of projects conducted in Alabama, Alaska, California, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Mississippi, Missouri, New Jersey, New Mexico, New York, North Carolina, Oregon, South Carolina, Texas, Virginia, Washington, West Virginia, and Wisconsin.

Many States concentrated efforts on projects designed to help family-size fruit and vegetable growers market their products by giving them on-the-spot help in improving quality and packaging--to make their offerings more attractive to discriminating buyers. Such buyers seek a quality product attractively and uniformly packed by grade, size, and maturity and available in sizable quantities. In Alabama and Mississippi, trained marketing specialists examined farmer truckloads of fruits and vegetables for quality and general condition upon their arrival at farmers' markets. If defects were noted, they were immediately called to the producer's attention. He was told how to correct the situation, frequently by repacking. Strong emphasis was also placed on using proper types of containers. The effectiveness of their efforts was evident on the Birmingham, Ala., market where nearly 40 percent of the produce sold is now packed in sound shipping containers. Formerly, 90 percent was received in splint-type baskets.

Specialists working on the Dothan, Ala., market went directly to farms and showed packing crews how to segregate products (such as tomatoes) according to size, grade, and stage of maturity. This assistance, along with special demonstrations on TV and at farmers' meetings, stimulated producers to upgrade their product. This resulted in twice as many buyers coming to the market during the 1963 season as during the previous year. Total volume of produce handled in the market increased by one-third, and tomato tonnage doubled. The total value of sales exceeded a year earlier by $100,000.

Using similar quality improvement techniques, South Carolina started on a project late in the fiscal year to improve the quality of produce offered for sale on the Columbia State Farmers' Market. Also, work was started in helping the South Carolina peach industry to pack peaches properly for export trade.

Matching fund personnel in Maryland were instrumental in increasing buyer interest in strawberries offered at an Eastern Shore auction by helping growers overcome quality and packing defects. Project personnel in other States, such as Mississippi, Kentucky, and Illinois, also spent considerable time at farms and packing sheds demonstrating proper packing and grading methods.

Louisiana specialists conducted meetings for producers and packers covering such items as quality standards, harvesting practices, packaging, decay control, refrigerating, and cooling. These meetings plus personal followups encouraged firms handling peaches, cabbage, and strawberries to improve their cooling facilities; helped encourage the first attempt to sell watermelon on a size basis; induced packers to use paper or cardboard containers for shipping sweetpotatoes; and spurred the use of wax to maintain tomato quality.

Special short courses designed to help apple growers produce and pack a higher quality product where conducted in New Mexico. Emphasis was placed on quality improvement in order to recapture out-of-State buying interests which had become apathetic.

Michigan helped to minimize the volume of undesirable quality apples moving in marketing channels by making orchard inspections and urging producers to divert apples not suitable for storage directly to juice or processing plants. It was estimated that this diversion saved producers $140,000 in storage costs alone. Personnel in Michigan also reviewed weights and standards of potatoes and encouraged the industry to place greater emphasis on sizing, uniformity, and cleanliness. Some packers who adopted their suggestions were able to command up to $1 per hundredweight more than those who disregarded such factors.

Some States made a special point to slant their quality education efforts toward the retail trading level. Michigan made special charts showing abbreviated references to grades, size, and labeling requirements for eight fruits and vegetables. These charts were distributed at schools conducted for retail-store produce managers, and many were eventually placed on walls in the store areas where produce is received and handled. The schools and charts helped managers to: exercise more sound judgment in procuring fresh fruits and vegetables, regulate more effectively their displays and inventories, reduce losses incurred in purchasing and handling, and give customers a better quality product.

Wisconsin conducted apple-grading and marketing sessions and a series of Christmas-tree grading clinics. As a result, a number of apple growers made changes in their packing lines and upgraded their packages, and several Christmas-tree producers showed interest in having their trees officially inspected.

In Colorado, a three-year project to improve the quality of north Colorado potatoes sold at the retail level was concluded. A fieldman worked with potato growers and handlers supplying retail outlets before and after the harvesting season, and pointed out ways that quality could be improved to encourage greater consumer utilization of locally grown potatoes.

Georgia personnel worked with the Sweet Potato Commission in encouraging the prepackaging of sweetpotatoes for retail stores. They were also instrumental in helping to draft minimum grade standards for sweetpotatoes. States such as Missouri and Illinois helped retailers and consumers identify desirable merchandise by authorizing the use of "State Seal of Quality" emblems on products which met specified standards of high quality. Producers failing to meet such standards were denied use of the seal.

Many States provided special assistance to commercial handlers and processors of fruits and vegetables. Indiana issued a monthly newsletter for processors and helped conduct annual technological conferences for canners. An intensive three-week quality-control school was set up to train technicians in quality evaluations. As a consequence, processors began following improved sanitation and quality practices which resulted in less State and Federal seizures of processed goods.

Indiana made a study to determine the effectiveness of the newly developed lye-steam automatic tomato peeler on Indiana tomato varieties. Results disclosed that the processed quality of some varieties was sharply reduced by mechanical peeling, and that further work on varietal peel ability is needed before growers can be advised to concentrate on any specific variety or varieties to assure a high quality processed product when the automatic peeler is used.

After making a study of controlled-atmosphere (CA) apples sold in the Washington, D. C., Richmond, and Knoxville markets, Virginia specialists recommended that any proposed new apple storage facilities in Virginia include provision for CA storage, that all apples stored and marketed late in the season should be placed in such storage and preferably treated with stop scald, and that CA bagged apples sold in retail channels be identified as such. The specialists worked with the Virginia State Horticultural Society in drafting a law to establish and enforce controlled-atmosphere regulations.

Michigan started work on a film designed to emphasize the production and marketing of quality celery from seed bed preparation through transplanting, growing, harvesting, packing, and marketing. This film will be made available to marketing promotion agencies, extension marketing personnel, and other interested agencies and will be used as a training tool for new inspectors.

In Texas, attention was focused on encouraging proper handling and shipping of watermelons to avoid damage while in transit. To help accomplish this, special bulletins containing instructions on the best method of packing were distributed to truckers at road stations and buying points.

The California Agricultural Code on avocados specifies quality standards but does not require standard containers or provide specific packing or marking requirements that relate to size or count of fruits to a shipping container. Project personnel made measurements and tests of containers currently used in trade channels to help develop a standard method of packing and a standard container for shipping avocados. Thus buyers desiring certain sizes could be assured they would receive exactly what they wanted from all shippers of avocados.

Extensive work was done in California to determine if more satisfactory maturity standards could be developed for Thompson seedless grapes. In some years, grapes which met the existing soluble solid percentage requirements specified in the State agricultural code were sour because of high acid, while in other years, they were unpalatable because of abnormally low acid. A further complication arose when growers began treating grapes with gibberellic acid, which increases the size of the berry but delays maturity. Tests were made to determine the relationship between the soluble-solids content and the ratio of solids to acid in the juice of grapes treated with gibberellic acid. These tests may also establish a relationship of gibberellic acid to palatability. Results were not conclusive enough to warrant specific recommendation on how the California Agricultural Code should be revised.

Because potatoes produced in Alaska during August and September are somewhat immature and skin easily, growers had difficulty in meeting maturity specifications for military procurement during those months. Project personnel dissuaded growers from bidding for such contracts unless they had special handling facilities. They helped growers work out an orderly marketing procedure to move potatoes without resorting to drastic price concessions.

California made studies to measure the freeze damage to oranges during the winter of 1962-63, and experimented with a new method for measuring drying damage caused by freezing. The State agricultural code specifies that citrus cannot be marketed when a frost damage has affected the segment walls on more than two sides of two segments of an orange, or more than 20 percent of the surface cut transversely. Drying damage does not occur uniformly throughout the fruit and is in fact very erratic. If a method can be worked out to measure damage throughout the entire orange, it will provide a basis for a change in the agricultural code pertaining to freeze damage in oranges.

The purpose of a project conducted in Florida was to improve present procedures and/or develop new and better methods for determining the pounds solids of oranges delivered to the processor. Accurate determination of pounds solids, which is the basis for processor payment to the grower, is a problem that has plagued the citrus industry for many years. Work was done on the selection of samples, on the extraction and measurement of juice from these samples, and on the analysis of juice for Brix and acid.

After considerable experimentation, it was found that a machine designed to determine pounds of solids electronically, without extraction or measurement of Brix and acid, was both inaccurate and unreliable. Two new extractors were then tested at the experiment station, one for possible use in processing plants and the other for fresh-fruit houses. The problem of cutting down on the pulp content included in the juice by developing more effective finishers was also explored in cooperation with a finisher manufacturer.

Analytical methods presently used for determining juice weight, Brix, and acid of inspection samples were evaluated to help develop methods of greater precision. The eventual goal is the automatic determination of Brix and acid with results transmitted as an electric signal to a central control center.

A project was initiated in New York to determine ways in which procurement and pricing practices followed by Long Island potato-packing-shed operators could be modified to command higher returns to the better quality growers on bulk potatoes delivered to sheds. Requests for such a study emanated from packing shed operators and the more progressive growers who feel existing practices do not provide adequate incentives for growers to expend extra effort, time, and money to provide the sheds with potatoes of better than average quality.

In cooperation with Oregon State University and the State extension service, the Oregon Department of Agriculture continued a project to market-test "specific gravity separated" Russet Burbank potatoes. Potatoes with low specific gravity were designated as boilers while those with a specific gravity

of more than 1.085 were classed as bakers. Both boilers and bakers were featured at identical prices in special displays at selected retail stores where they sold at premium prices over other No. 1 Russets. Work to date reveals that a specific-gravity separating machine in which a brine solution is used to separate the potatoes can be operated effectively under in-plant conditions, and that restaurants and consumers are willing to buy potatoes on such a basis and pay a price more than sufficient to cover costs involved in making separation.

Under a Texas project, more than 16,000 rose bushes were examined, inspected, and calibrated. The resultant data was processed on an automatic processing machine to establish guidelines for a quality and grading improvement program. This work, along with considerable educational efforts, convinced the rose industry of the desirability of establishing a new system of grading based on calibrated size of the canes and the number of canes. The new grades would replace previous standards based on cane length which could be obtained by forced growth and long trimming.

Market Expansion

Although practically all States with projects involving fruits and vegetables did some work on expanding market outlets, the following had projects specifically geared to this objective: California, Colorado, Georgia, Illinois, Kansas, Louisiana, Maine, Maryland, Minnesota, Mississippi, Missouri, New Jersey, New Mexico, New York, North Carolina, North Dakota, Pennsylvania, Texas, Virginia, Washington, and West Virginia.

In some States, considerable effort was expended on promoting locally grown produce such as asparagus, potatoes, sweetpotatoes, strawberries, apples, peaches, and pears. This was usually done in cooperation with industry groups, commodity councils or commissions, the AMS Plentiful Foods Program, allied commodity groups, and extension services.

Personnel in some States became personally involved to some extent in specific details such as setting up displays and distributing point-of-sale material, but principal emphasis was on providing services of an advisory nature to public or private commodity groups.

A major objective of these programs is to assist marketing firms in integrating supplies of fruits and vegetables into profitable marketing channels, particularly products in excess of local needs.

Many States such as Colorado, New Mexico, North Dakota, Maine, Illinois, Maryland, Virginia, Louisiana, Missouri, New Jersey, and New York identified their quality products with State Seals of Quality. Marketing specialists visited regular and potential market outlets both in and out of the State to acquaint the wholesale trade and large retail store outlets with these quality fruits and vegetables. Shippers unwilling to meet specific standards of quality were deprived the use of the seal or other identifying emblem. Follow-up was made of any buyer complaints of grading, sizing, packaging, maturity, and appearance of products carrying the seal. Any such problem areas were brought to the attention of the shipper, to prevent further occurrences.

In their contacts with distant buyers, marketing specialists often uncovered buyer preferences to type of pack, varieties, size, and state of maturity. This information was conveyed to the shippers so they could make necessary modifications in their product preparation to attract those buyers who insisted upon certain specifications.

Widespread use was made of public relations techniques, such as special dinners and luncheons which featured locally grown products, and special releases emphasizing the nutritive value, use flexibility, and economy of specific fruits and vegetables, particularly during the periods of heavy marketing. As with other commodity expansion programs, marketing specialists worked closely with home demonstration agents, home economists, and school lunch managers in showing them ways that various fruits and vegetables could be prepared. Frequently special displays and films were made for specific use at State and county fairs, trade conventions, nutritionists' conferences, and similar gatherings.

In Maine, specialists urged mass feeders to purchase boxes of potatoes which contained a stated number of potatoes of a given size. The number of shippers packing "count box" Russet potatoes showed a considerable increase over the previous year, indicating more widespread use of uniformly sized potatoes. It was found that the 100-count box was preferred by a large percentage of users.

Such promotion efforts were not only instrumental in encouraging consumption of the promoted products but were also influential in raising overall standards of quality, resulting in higher average returns to quality producers and more desirable products for consumers.

A number of States, including Alabama, Indiana, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Texas, Virginia, and West Virginia, sent special releases to buyers over a wide area just prior to and during the harvesting seasons advising them of such factors as the location of various commodities, volume and quality expected, and anticipated period of movement. This helped to stimulate considerable out-of-area buying interest, providing producers with a greater diversity of outlets, which proved to be helpful in market planning.

During the roadside marketing season in New Jersey, specialists were assigned to advise roadside operators on the importance of attractive display, cleanliness, insect control, refrigeration, uniformity of pack, and procurement of top quality products. As a result, an increasing number of stand operators made changes which encouraged more buyer activity and greater consumer satisfaction.

In seeking ways to utilize sweetpotatoes not suitable for the fresh market, Virginia prepared a prospectus which covered site requirements, building and equipment costs, raw-product costs, and methods for organizing and financing a plant capable of processing up to 12,000 pounds of sweetpotatoes per hour into dehydrated sweetpotato flakes. As a result, a corporation was formed to build a plant to manufacture such a product.

For the first time, marketing specialists in Louisiana were able to convince watermelon producers of the advantage of grouping their melons according to size. The availability of melons of uniform size stimulated greater buyer activity both locally and out-of-State. Through a series of packing schools in that State, the strawberry industry was encouraged to adopt a new concept of packaging which saved producers approximately $200,000 per year and noticeably increased buyer acceptance of Louisiana strawberries. Tomato auctions which Louisiana personnel helped organize were effective in stabilizing the tomato market by providing quality-oriented outlets for approximately 500 farmers.

In Minnesota, special marketing expansion assistance was given for the first time to producers of sunflower seeds, carrots, mushrooms, and rutabagas. Georgia carried on a campaign to stimulate more direct consumer buying at the Atlanta Farmers' Market.

Because of requests from consumers and the food trade for smaller size brussel sprouts, California studied the effect on production and processing costs of reduction of average sizes in a package of frozen brussel sprouts, or reduction in the maximum allowable size of brussel sprouts for processing. A statistical analysis of the data obtained shows it is possible for the industry to estimate the average cost differences that will result when brussel sprouts are placed in various size groupings. This information was of value to processors since an increasing number of them are considering paying premium prices for lots from which larger sizes have been removed.

In making a survey of avocado marketing to help the Avocado Advisory Board plan its future promotion program, California specialists found that the eastern part of the United States offered greater opportunities for increased sales and recommended that more promotion effort be directed to that region. Also, it was found that the avocado display rack, although an expensive kind of promotion, did help increase sales by its eye appeal and its utility in providing a convenient way of distributing effective recipe folders.

Pennsylvania assisted its flower and nursery industries to conduct publicity campaigns to create a more favorable image of floral and nursery products. Special releases telling about these products were transmitted to consumers through news releases, feature stories, radio and television shows.

In southwestern Indiana, considerable work was done with industry in testing and developing new grading, packaging, and cooling methods for cantaloupes. Factors relating to transporting cantaloupes were also studied. These practices were tested on a pilot basis showing that quality could be significantly improved through more efficient methods and that the net returns to producer-shippers could be increased as much as 50 percent.

In North Carolina, matching fund personnel assisted about 18,000 farm families, mostly on small acreages, in finding processing outlets for cucumbers, snap beans, peppers, sweetpotatoes, and Irish potatoes. Under authorization of the State Handlers Act, State personnel worked out contracts between producers and processors wherein prices for products of specific grade and size are determined prior to planting. As a bargaining agent, the State agriculture department in the past year was able to negotiate a price increase of 50 cents per

hundred pounds on No. 1 grade cucumbers. Also, a working agreement was arranged between a group of 75 farmers interested in growing tomatoes and one of the Nation's largest handlers of vine-ripened tomatoes. As a result, tomato production expanded ten-fold within a two-year period and returns per acre were greater than those previously realized from tobacco.

In Washington, State department personnel assisted a berry-growers association in making contracts with packers, in setting up a promotion program on frozen red raspberries and in preparing a brochure to inform non-member growers of the association's activities and accomplishments.

In cooperation with the extension service and Auburn University, matching fund specialists in Alabama initiated a comprehensive survey of the existing fruit and vegetable production and marketing structure. The resultant data will indicate if and where additional farmers' markets are needed or if any expansion might only tend to weaken the effectiveness of the existing markets. Also, the survey will pinpoint ways in which present facilities might be improved or expanded and will provide a basis for determining the practicality of encouraging construction of processing facilities in the State.

Marketing Efficiency

Projects geared to improving marketing efficiency in the fruit and vegetable field were conducted in Illinois, Indiana, Louisiana, Maine, New Jersey, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Virginia, and Washington.

Indiana released situation and outlook reports which analyzed supplies, shipments, stocks, and prices of canned tomatoes, tomato juice, and catsup. Based on visits to canning plants, suggestions were made concerning cost analyses, management, labor use, and product merchandising. This information helped canners to improve their price planning, raw product procurement, inventory analysis, and product line development, and to reduce costs.

At meetings with Indiana fruit growers, methods of cost analysis and budgeting were outlined along with essentials for establishing marketing cooperatives.

A new project in Indiana was initiated to help independent retail food stores appraise the impact of selected merchandising methods on sales of canned fruits and vegetables.

In Louisiana, a survey was made of fruit and vegetable producers in the Baton Rouge trade area to determine the extent of production and the adequacy of existing marketing outlets. A preliminary report of information uncovered in interviews, revealed that the majority of growers and handlers of fruit and vegetable products in the Baton Rouge area feel that a farmers' market is needed in Baton Rouge.

Maine and New York conducted projects in which they assisted retail establishments in designing new facilities, renovating existing facilities, and

adopting new and more efficient handling methods and operating procedures. Marketing specialists observed retail store operations in detail over a period of time, and made specific recommendations concerning work simplification methods, changes in produce backroom and sales area layout, modernizing of present equipment or purchase of new and more appropriate equipment, and proper preparation of produce for counter display. As a result, stores that made suggested changes were able to increase sales per man-hour through better utilization of labor and equipment. Where noticeable improvements were made in product preparation and display, a general upward trend in sales was attributed in part to increased impulse buying.

New Jersey specialists initiated steps leading to the development of a modern food distribution center in northern New Jersey by surveying food wholesalers in that area. Information obtained from wholesalers included data on location, annual volume, commodities handled, area of sales, sources of supply, description of facilities, evaluation of efficiency, and future needs. Such information will be of prime significance in making plans, both physical and financial, for a food center which the New Jersey Public Market Commission proposes to build in Hudson County.

In New York, work was completed on a new 12-quart corrugated strawberry tray. Tests disclosed the trays have remarkable shipping and stacking strength, have a high re-use factor, and can be produced more cheaply than other corrugated trays now in use. Improvements were made in a tomato box to increase the size, improve ventilation, modify handholes, and develop a friction-type lid.

Pennsylvania activities were directed toward showing marketing agencies how to operate more effectively through cost reduction programs and improved efficiencies. Services included studies of small processing plants to help managers decide whether to continue in the same line of endeavor or to seek alternative uses for their plant.

Studies of existing warehousing methods and costs were made in Philadelphia and Greensburg, Pa. Recommendations to management included suggestions on how to improve management, handling, storage, and sanitation practices.

South Carolina concentrated on identifying and developing potential foreign markets for South Carolina agricultural products. This included exploration of potential market opportunities, trial exports of fresh peaches and pecans, and a classification of firms interested in exporting. A study of the vegetable industry in the Charleston and Beaufort Counties area was started to provide data on the feasibility of establishing a processing facility in that area.

In Washington, a mechanical splitter was designed to process a new variety of broccoli which is particularly adapted to machine handling and requires fewer field cuttings. Studies seem to indicate the feasibility of establishing a processing plant specializing in broccoli and peas in an area of the State where other agricultural enterprises such as dairying are no longer profitable. The new variety and new plant methods are the leading reasons for broccoli being a basic part of the plant operation.

Marketing Information

A number of projects involving marketing information on fruits and vegetables were concerned with improving the basis for estimating crop yields prior to time of harvest. These surveys also provide appraisals of crop quality and size distribution and in the case of some nut crops, the meat or shell out yield. In order to speed up release of data and make it available when most needed, increased use was made in many States of automatic data processing equipment.

California conducted objective measurement surveys on almonds and walnuts. For almonds, the objective was to develop procedures whereby accurate production estimates could be made as early as May 1, along with a forecast of meat (shelled) yield including a size distribution of such meats. This is particularly significant now that about half the crop is sold in a shelled form and the confectionary trade, a large consumer of almonds, is vitally concerned with the size distribution of such meats. For walnuts, the goal was to make a more accurate forecast by September 1, including an estimate of the distribution of walnut in-shell sizes.

For both almonds and walnuts a random sample of about 500 orchards was made from a listing of all orchards, and growth surveys were made at regular intervals on a preselected group of these orchards. At a certain stage of maturity, a fullscale count and size survey was made. In each of the sample orchards, counts were made on a randomly selected "accessible" branch in each of two randomly located trees. A subsample of about 20 percent of the fruit picked in the counting procedure was taken to a central sizing station where in-hull, in-shell, and nut-meat measurements were obtained. Results to date have been very encouraging and have indicated definite improvements from previous estimating procedures. Among other advantages it has been possible to provide the trade with more accurate data relative to the effects of insect infestation or adverse weather on the crops.

Financing of a California matching fund project covering objective measurement forecasting of lemons was shifted to regular State and Federal funds at the close of the 1962 fiscal year.

Michigan completed verification of procedures in using objective sampling methods to make estimates of onion yields at harvest time.

New Jersey started to test the feasibility of improving blueberry crop forecasts by using objective measurement techniques. A complete enumeration of all blueberry growers was made to obtain final 1962 blueberry acreage and production by varieties.

New York released reports in early July which indicated the acreage devoted to various crops in the intensively cropped muck-land areas. Onion production forecasts broken down by areas were released on September 1 and October 1 along with area stock reports on January 1.

The primary purpose of a project in Oregon was to develop and test an objective procedure for making acceptable and reliable forecasts of the filbert crop by August 1. Harvesting is done in October. Since the inception of the project, several methods have been tested and modifications and additions have been incorporated into the original design including the forecast of production as to size grades. These forecasts have proven to be an improvement over previous estimates and are widely used by the industry in establishing quotas and in planning future operations. Oregon tested the use of blossom counts as an early predictor of the filbert crop. Since three years of testing brought out considerable variability, it was concluded that blossom count ratios do not provide information that can be reliably used in crop estimating.

Florida conducted a project to develop forecasting techniques for predicting the yields of solids from individual orange crops, establishing appropriate statistical methods to predict the period that will result in a maximum yield of pounds solids, and the refinement of methods employed for maintaining accurate citrus-tree inventories. A series of surveys, made in February and March following the severe freeze in December 1962, revealed that soluble solids in damaged fruit were not making a normal increase and the juice weight was gradually declining. Such information on orange maturity was of vital help to the industry in determining the progress of the crop and the best time to harvest the fruit for processing. Requests were received for the inauguration of regular survey reports on maturity and yield of citrus from just prior to maturity until harvest is completed.

Efforts were expended in Michigan to improve the mid-June forecast of tart cherries. Data on 1959-62 objective fruit counts were analyzed with the help of automatic data processing machines. As a result, new drop and weight models were developed and other specific areas needing study were pinpointed.

Request for current and accurate inventory of fruit and nut trees and vines are received from growers, processors, farm equipment companies, container manufacturers, transportation companies, governmental agencies, universities, and others interested in the fruit, nut, and vine industry. In addition to the count itself, these groups are interested in breakdowns by variety, age of planting, and location of planting. Such information is used to evaluate trends in production, determine marketing policy and provide a base for sound, long-range planning.

Under a matching fund project, California has obtained inventory data by operator, location, variety, and age of all fruit trees and vines in the State. Each county is resurveyed every four years. By so doing, records of any changes can be kept current since it generally requires three to five years for fruit and nut trees and grape vines to reach bearing age. An innovation during the 1962-63 survey year was the successful use of aerial photography in surveying Fresno County. A special study to determine minimum size classification of fruit and nut farms in California resulted in a recommendation that 10 plantings be the minimum on avocados, limes, olives, and walnuts, with a 50-plant minimum applying to other fruit and nut crops and vines.

Florida worked on a project to refine methods for maintaining accurate citrus-tree inventories. A tree census report issued in January 1963, was the second in an annual series and provided information by major citrus types on the number of bearing and non-bearing trees, and showed the current distribution of citrus trees by counties. Such information was of considerable help to the citrus industry in forecasting citrus production. Initial work in utilizing aerial photographs to locate citrus groves indicated that if aerial photography can be secured at a reasonable price, it is preferable to ground survey methods.

In Michigan, a tree count for all fruits by age and varieties was made in the Kent-Ottawa area in cooperation with the extension service.

Surveys on pecan and apple orchards by age and variety were made in New Mexico. The pecan survey revealed that New Mexico ranked second in 1962 production on improved varieties and that within 10 years production could be doubled. The apple survey disclosed that because of new plantings, the production could increase 50 percent in the next five to seven years. It also indicated production has actually been above the recorded figures.

A census of all fruit trees in Washington was nearly completed during the year, and data was being analyzed.

Illinois completed a census of apple and peach orchards having 100 or more trees, including data by variety and age, and published a preliminary summary of results. This survey pointed out the rapid expansion in some varieties of apples and peaches and helped the industry to make more intelligent production and marketing plans.

A filbert tree survey was conducted in Oregon to bring acreage and tree figures up to date and these figures were particularly valuable in helping growers to modify their plans following the destructive storm of October 12, 1962.

Mississippi started compiling a list of producers of the most important vegetable crops to provide a basis for making probability samplings for use in acreage and yield forecasts and estimates.

A Massachusetts project helped provide basic data for crops by crop breakdowns, including data on acreage distribution by county and season, planting intentions, harvested acreage, lost or abandoned acreage, yield and production, prices received, and value of production.

The apple forecast released by New York in August was refined to show separate breakdowns for western and eastern New York. Apple varieties grown in western New York sell mostly to processors while eastern varieties move primarily to the fresh trade. The forecasts by area helped the industry and growers considerably in pricing the crop before harvest. New York also began reporting warehouse stocks of dry beans on September 1, the end of the old crop marketing season, and on April 1, when practically all beans have been moved from farm warehouses. In addition, both farm and warehouse stocks were reported on January 1. This information on stock availability helped dealers plan their operations with greater confidence.

Included in a South Carolina project was an enumerative survey of commercially produced vegetables in Orangeburg, one of the State's three leading vegetable-producing counties. This survey uncovered commercially grown vegetable crops not listed in the census enumeration, providing considerable help to the trade in market planning.

Missouri conducted experimental, market news reporting in major producing areas during the marketing season on apples and watermelons. Daily price and market-condition reports were made available to producers and other interested parties through published reports, radio, and TV. These reports helped producers strengthen their marketing position over previous years when, for lack of current market news information, they frequently lowered their prices unnecessarily because of unwarranted fear of missing sales opportunities.

The Wisconsin and Minnesota departments of agriculture cooperated in releasing special information reports on apples from mid-August through early November. Growers were called twice weekly for information on varieties being harvested and sold, volume sold, type of packages used, and prices received. This data was summarized in a report sent to approximately 300 producers who used the information in making marketing decisions.

LIVESTOCK AND LIVESTOCK PRODUCTS

Quality Improvement

Projects which served to impress those in the livestock industry with the practical advantage of understanding and using recognized grades and standards in livestock and livestock product marketing were conducted in: Alaska, Colorado, Indiana, Iowa, Kansas, Maryland, Michigan, Pennsylvania, North Carolina, Tennessee, Virginia, and West Virginia.

Kentucky sponsored swine carcass contests to demonstrate the carcass characteristics, the lean-fat ratio, and the relative returns expected from meat-type instead of fat-type hogs. Also the merchandising problems encountered on fat-type hogs were pointed out.

In Michigan, sample ribbed beef carcasses were analyzed and ways were studied to use the information obtained in a practical way to help cattle feeders improve their cattle management programs. Also, marketing specialists assigned to this project studied ways in which this carcass information could be used in determining true market value, in field evaluating, in making feeding recommendations and in detecting superior and inferior breeds of cattle.

Carcass evaluation demonstrations in Kansas pointed out ways that producers can improve the carcass quality of their livestock. Special hindquarter cut-out demonstrations conducted by Kansas specialists for both retailers and producers helped each group to appreciate the others' problems by pointing out how much unsaleable product was accumulated by the retailer.

Kentucky, Maryland, Pennsylvania, North Carolina, Tennessee, Virginia, and West Virginia continued projects to expand and improve the effectiveness of special livestock sales where animals are segregated prior to sale and are commingled in pens according to grade and weight and, in some instances, by breed and sex. Since producers can make firsthand observations of the relationship between quality and price at these sales, they are encouraged to improve breeding, feeding, and management practices to produce an animal which commands attention from the discriminating buyer. Indicative of the worth of such sales has been the increasing demand from auction market operators, producer groups, and buyers for assistance from State personnel in setting up additional sales, particularly for feeder pigs and feeder and stocker cattle. Since the sales have been successful in attracting a wider segment of buyers, the selling position of livestock producers using these sales has been materially strengthened.

To overcome the problem of attracting buyers from distant points because of the time and travel involved, livestock marketing specialists in Virginia cooperated with the local telephone company in setting up a "Tel-O-Auction" early in 1963. The Tel-O-Auction works by means of a conference telephone line hookup between the auctioneer at a Virginia sale and the buyers, including some in Connecticut, Illinois, Indiana, Maryland, North Carolina, New Jersey, Ohio, and Pennsylvania. Prior to the sale, the auctioneer calls the buyers and gives them the sale order, lot numbers, and grade, number of head, and average weight of the animals in each lot. Telephone buyers bid by calling out their preassigned numbers and the auctioneer notifies them of any bids made by buyers present at ringside. Before closing the sale, the auctioneer states whether the last bidder is at ringside or on the conference line. Upon completion of the sale, the successful bidder calls the sales manager giving billing and shipping instructions. Indicative of how this arrangement helped favor the competitive position of the producer-seller was the fact that buyers at one market increased from 3 to 12 after the Tel-O-Auction went into effect.

Sheep production is widely scattered in most States and the selling power of individual producers is limited because of the relatively small volume they can concentrate for sale at any given point. Matching fund personnel in Kentucky, North Carolina, Pennsylvania, Tennessee, Virginia, and West Virginia assisted sheep producers organize special graded lamb and wool pools and procure quality breeding stock. These sales resulted in a greater dollar return to producers by creating a more competitive buying situation and by helping to develop effective marketing outlets closer to the point of production.

Other services performed by livestock marketing personnel in the quality improvement field included cooperative work with extension personnel on junior market hog, lamb, and fat calf shows; assisting in special refresher judging classes for county agents; helping conduct special purebred sales; and judging various livestock events.

Market Expansion

In the field of promotion and market development, marketing specialists in Iowa helped lamb, pork, and beef industry groups to plan and execute special

promotion efforts for more consumer interest in these products. These projects enlisted the participation of restaurants, trade associations, producers, business leaders, agricultural youth groups, Vo-Ag teachers, and advertising companies, who were encouraged to conduct promotion endeavors on their own, with State department specialists serving in an advisory position.

In Kansas, special demonstrations were conducted for consumers and institutional buyers to help them in selecting various cuts of beef, pork, and lamb, and in preparing these cuts to assure maximum utilization, particularly from the less popular cuts.

Marketing Efficiency

Projects which emphasize marketing efficiency in the livestock and meat fields were conducted in Indiana, Kansas, North Carolina, Mississippi, and Virginia. These States worked with meat-packing plants, in helping them set up long-range remodeling and building programs to make their facilities more adequate, sanitary, and efficient. Kansas matching fund personnel cooperated with Kansas State University and U. S. Department of Agriculture personnel in conducting retail store studies and meat schools as a service to food retailers. Included in the studies was information on remodeling, meat retailing, equipment, product flow, and work simplification. Indiana conducted schools for stockyard personnel in better handling methods and procedures.

In Kansas, small meat packers were helped to meet sanitary requirements of a new State Meat Certification Program. By coming under the program these smaller plants were able to compete more effectively with larger plants in supplying needs of State institutions. The proportion of meat the institutions purchased from small plants increased from 2 to nearly 30 percent. Help was also given institution personnel in applying improved practices in receiving, handling, and processing meat orders.

Another activity in Kansas was in cooperation with an independent grocery firm which tested a central meat distributing facility designed and built solely for the purpose of supplying completely processed meat cuts to each of its six stores. Major advantages of a central facility were found to be the saving of floor space at retail stores, elimination of costly processing equipment at the store level, more time for the meat department manager to give customers "special services" such as making suggestions on selection and preparation of the various meat cuts, savings on cost of meat purchased from packers by having one delivery made to a central point, and extension of shelf life at the retail levels as a result of controlled temperature and humidity, and good sanitation practices throughout the plant. Additionally, the central packing facility enabled the store management to standardize cuts and prices in their stores as well as make more efficient use of labor and capital inputs. It was found that the movement of the different cuts could be done at a savings by proportioning the volume of various cuts delivered to individual stores to coincide with proven buyer preference in each of the stores.

Marketing Information

A number of projects were aimed at providing producers and handlers of livestock and livestock products with more accurate and timely market information as a basis for making short- and long-term decisions.

During the year, the quarterly pig crop report which was originally conducted with matching funds in 10 leading hog-producing States was transferred to regular Federal funds.

Nebraska conducted a special survey to obtain detailed information on cattle marketings. This data included average sale age and weight of cattle and calves; volume moving through various marketing channels; and feeder cattle movement, by State and county (within Nebraska) of origin; and other related statistics on cattle supplies. This information was needed by persons interested in locating processing plants, establishing territories for area buyers, or making changes in existing facilities.

Special surveys where data was gathered on pig purchases by weight class, type of market, and prices paid by weight classes, were made by Illinois, Iowa, and Minnesota.

In addition, Iowa released a report listing percentages of various breeds of cattle and sheep on Iowa farms, by crop reporting districts. Special data was also collected on the number, weight, cost, and distribution of cattle shipped into Iowa.

Florida released a livestock report especially designed to bring together into one report, information on supplies, current price levels, and economic outlook, released by various Federal and State agencies. The report was released in cooperation with the extension service and proved very popular. Florida also started the preparation and distribution of quarterly reports of cattle on feed, finished to good and choice grades. Plans were made to include animals being fed to standard grades.

Montana cattle must be inspected for brands before they can be moved across county lines or shipped out of State. Under a matching fund project, brand inspection information was tabulated and summarized to show where Montana cattle was sold. This information enabled producers to advertise to better advantage, and helped them to increase their net returns through direct sales transactions. Also, buyers and feeders found the data useful in locating and purchasing high quality feeder cattle in Montana.

GRAIN AND SEED

Grain and seed matching fund projects were mostly concerned with helping handlers to improve their facilities, handling procedures, and management practices, and in providing more detailed and timely marketing information which could be used by producers and handlers in making marketing decisions.

Quality Improvement

Oregon studied the effect of nine different kinds of moisture-proof containers on the keeping quality of artifically dried seed. The packaging materials were burlap, burlap with polyethylene liner, thin polyethlene, heavy polyethylene, paper, paper laminated with polyethylene, paper laminated with aluminum foil, paper with asphalt, and paper with thin polyethylene liner. After being stored for periods up to four years, seed samples in the various packages were tested for germination and moisture content. Seed in burlap and paper bags contained highest moisture, 13 percent, followed by paper with asphalt, paper with thin polyethylene, and other kinds, which ranged from 7.5 to 9 percent. Germination reduction was 35 percent in paper bags and 28 percent in asphalt and paper combinations.

A project in North Dakota was set up to prevent contamination by rodents and birds of cereal grains destined for human consumption. The program was primarily of an educational nature and was instrumental in keeping contamination in elevators, commercial storage, and transit facilities to a minimum. Elevators were encouraged to follow good housekeeping techniques, and railroads installed car-cleaning equipment at terminals. Much remains to be done, however, toward eliminating contamination at the farm and farm-storage level.

Market Expansion

Work in the grain market expansion field was conducted by Kansas and Colorado personnel in cooperation with their State wheat commissions in promoting and encouraging the use of wheat and wheat foods. Particular effort was expended in acquainting institutional buyers, such as school lunch personnel, with the nutritive value and versatility of rolled wheat and bulgur and in presenting special demonstrations before institutional buyer meetings. As a result of the increased demand for bulgur, a new plant with a capacity for processing eight million pounds of bulgur per month was opened in Hutchison, Kans., in the fall of 1962.

Marketing specialists in Georgia and North Carolina worked with their miller trade in promoting consumer interest in corn meal by helping to coordinate statewide enriched corn meal muffin baking contests for Junior 4-H Clubs.

Marketing Efficiency

Georgia, Indiana, Louisiana, Maryland, Mississippi, and North Carolina conducted projects to improve marketing of grain and seeds by improving facilities and processing and handling methods.

Seed processing and handling firms were given on-the-job help on procedures and methods to follow in processing seeds, selecting screens for specific separations, adjusting machinery, installing additional separating machinery, and packaging, drying, and storing of seeds. Grain and feed dealers were helped in analyzing and evaluating traffic management, grain flow patterns, equipment handling, farmer relationships, storage and merchandising programs, and inventory and other managment problems.

By means of special grain-grading schools, elevator employees were provided an opportunity to learn more about grain grades, factors determining grade, and the care and storage of grain. Basic items that were stressed included procedure for drawing a representative sample, and determination of correct moisture content, weight per bushel, and foreign material.

Georgia specialists serviced processors of cottonseed by acquainting them with procedures for removing cockleburs from their seed. They also helped peanut processors and shellers overcome marketing problems by pointing out the best methods of drying, storing, shelling, and treating seed peanuts. The specialists worked closely with the Agricultural Experiment Station and kept shellers informed of new materials and new combination of materials found to be most effective for treating seed peanuts.

Moisture meters were calibrated, checked, and adjusted for dealers requesting such services. Widespread requests from the industry for these services and attendance and interest shown in the special training schools clearly indicated the need for this type of program. In North Carolina, it was estimated that work by matching fund personnel to encourage improvement and expansion of storage facilities resulted in substantial savings to producers. This savings was partially possible because many farmers were able to store and use their own grain instead of selling their production at distressed prices at harvest time and later buying grain for feeding purposes at higher prices.

Through assistance provided by matching fund personnel, shortcomings in operational efficiency were corrected in some grain elevators by regrouping machinery and other facilities and by adding some additional equipment such as multiple dump pits, scales and aeration equipment. Louisiana rice mills were able to increase efficiency by changing the location of loading-out equipment to shorten the distance packaged rice had to be moved in order to load trucks or cars.

Georgia and North Carolina performed specific services for the corn meal industries in their States. Assistance was provided plant owners in improving and updating their plants, many of which were old and badly in need of repair. Help also was given in the installation of pre-processing cleaning equipment and setting up plans for a sanitary grain program.

Marketing Information

In the information field, Missouri initiated a grain market news report in which daily and weekly information was released on prices paid farmers at country elevators for yellow shelled corn, yellow soybeans, hard ordinary wheat, and red winter wheat. Price reports by geographic areas within the State were also released for four terminal markets. These reports provided grain farmers with a basis for comparing prices they received with current market values. Help in developing the report was supplied by market news specialists from the Agricultural Marketing Service's Grain Division. The information was disseminated primarily by newspaper and radio, and a weekly mimeographed report listing prices in both local and out-of-State markets was made available to interested parties upon request.

A number of States conducted projects which involved collecting and summarizing data which provided more accurate and timely information on such items as production trends, varieties grown, effect of weather and variety on quality and yield, storage facilities, and other similar factors having a direct bearing on marketing. These surveys were performed by the State statistician's office in cooperation with producer organizations, State universities, State wheat commissions, wheat improvement associations, State grading services, and railroad companies.

Colorado, Illinois, Iowa, Kansas, Montana, and Nebraska made special variety surveys on crops such as wheat, soybeans, and oats. These surveys not only indicated the influence on farmers of programs encouraging the use of improved grain varieties to meet current market needs, but also pointed the way in which such programs could be made more effective. The surveys also helped the industry keep abreast of the rapidly changing variety picture. The Kansas survey revealed that the acreage devoted to strong gluten varieties increased from 28 percent in 1958 to 43 percent in 1963. In the same period, medium gluten strength varieties declined from 71 to 57 percent. Weak gluten varieties have accounted for less than 1 percent of the acreage since 1957.

Colorado, Kansas, and Nebraska conducted wheat quality surveys. In past years, data obtained on such surveys was mostly restricted to weight per bushel and protein content, but in the period under review information was also collected in some States on sedimentation, dockage, kernel damage, and foreign material. Kansas was successful in releasing results of surveys almost as soon as harvesting began. In 1963, about 12 percent of the wheat acreage was harvested by June 10 and the first wheat quality "spot" release covering early-harvesting counties was issued on June 14.

Although interest in these quality reports has always been high, this was even more true in 1963 because of premiums and discounts on sedimentation and protein content offered under the CCC program. These quality reports made farmers aware of the average quality of wheat in their counties. They then were in a better position to make decisions as to whether they should sell, hold, or place their wheat under loan. Millers and other buyers of wheat were helped by these reports since they pinpointed the location of the particular kind of wheat needed for their operations.

Illinois made a survey on the proportion of the 1962 corn acreage harvested by mechanical pickers, picker-shellers, and combines with picker heads. Information was also collected on the proportion of the production dried artifically by type of drying equipment. This data, published by crop reporting districts, indicated that a larger protion of the crop than anticipated was being shelled and dried at harvest time, and helped to explain a serious problem faced by marketing agencies in handling unusually large quantities of corn sold at harvest time. Among other information projects carried on in Illinois was a special tabulation by crop reporting districts or counties of existing data on planting intentions for various grain products, estimated yields per acre, off-farm grain storage and other similar data, which provided valuable information to buyers, sellers, and allied industries.

A study of grain storage capacity made in Nebraska revealed that storage capacity on farms was in keeping with requirements in most areas of the State. Minnesota released quarterly reports on grain, by type of facility.

Lack of information on the acreage, production, or price for safflower prompted Nebraska to make a study to fill this information gap. A mail survey was conducted by the State statistician's office and a report was published showing data by counties and for the entire State on acreage, yield, and production for the years 1961 and 1962.

Illinois made a special study of marketing practices followed by grain elevators in southern Illinois and also how grain market news was used by farmers in that area. The study revealed that about two-fifths (42 percent) of the elevators "hedged" at least part of their grain and that the larger the operation the more "hedging" they did. More than half (53 percent) of the elevators operated a grain bank. Slightly less than one-fourth (23 percent) both hedged and operated a grain bank and less than one-third (30 percent) operated a grain bank with no hedging. The study revealed a need for improved market information at the local level so that farmers would be in a better position to know what a specific load or bin of grain should bring at a given time.

COTTON AND TOBACCO

Cotton marketing projects were conducted in two States--Louisiana and North Carolina. The modernization of spinning mills, with high-speed spindles for increased efficiency, has resulted in buyers being more critical of ginned cotton fibers. Rapid improvements and changes in cotton-ginning machinery has created a demand for trained personnel to operate the new and complex units being incorporated in the modern gin plant. The accelerating trend toward machine harvesting of cotton is throwing a heavier load on the gins to separate and dispose of foreign matter.

Specialists in Louisiana and North Carolina concentrated their efforts on reducing fiber damage and encouraging ginners to modernize their plants to increase their efficiency and capacity. They were particularly concerned with reducing the amount of cotton damage caused by excessive heat in drying and improper adjustment of gin machinery. Assistance in maintaining proper heat control and adjustment of machinery was provided ginners through visits and special ginner schools. Upon request, the specialists consulted with ginners on the selection of new and used equipment. High humidity in Louisiana results in a high moisture content in the seed cotton and ginners are often inclined to use too much heat in drying. By the use of moisture meters, the cotton specialists helped ginners to segregate seed cotton of like moisture and foreign content in the gin yard in order to facilitate better heat and machine control in the drying and ginning process.

There were definite indications in both States that service work performed by the matched fund specialists helped ginners to supply the textile mills with a more acceptable product and at the same time improve the overall efficiency of their ginning operation.

Work to help solve tobacco marketing problems was carried on under matching fund projects in Kentucky, Maryland, North Carolina, and Wisconsin. In North Carolina, the tobacco marketing specialist cooperated with vocational agricultural teachers, county farm agents, farm organizations, and allied groups in organizing meetings for farmers. In the winter and spring, farmers were given a thorough analysis of the tobacco situation as it related to stocks on hand, domestic and export disappearance, consumer demands, and new developments in the industry. Providing producers with such information before crops were planted gave them a better basis for making decisions on the kinds of tobacco that should be grown to coincide with indicated demands.

The marketing phase of the program started around July 1 and the request for services was at an all time high in 1962 because North Carolina producers in some belts sold tobacco on a loose-leaf basis for the first time. Producers were helped in interpreting revised U. S. grades which placed greater emphasis on maturity.

The Virginia and Kentucky tobacco projects were started during the year and a considerable portion of the marketing agent's time in each of these States was spent in visiting tobacco auction centers, warehousemen, growers, and buyers. On these visits, the adequacy of marketing facilities was appraised and quality problems found to be of concern to buyers were conveyed back to warehousemen and farmers.

Farmers and warehousemen in Kentucky were told of the best known methods of handling stripped tobacco from barn to warehouse floor and of the proper way to pack tobacco in baskets at the warehouse. An orderly way of placing baskets in line for sale to present the best possible appearance to buyers was demonstrated at warehouses.

Wisconsin specialists organized a joint meeting with tobacco marketing cooperatives and procurement firms to elicit their suggestions on how best to strip, sort, and bale the crop for market. Eleven meetings were held with producers to review the suggestions made by the group, to explain new USDA grades, and to demonstrate correct sorting and baling procedures. By following the marketing suggestions, producers were able to reduce the percentage of grinder (lower priced) grade by two to four percentage points. During the marketing season, a daily price report was prepared and disseminated by radio, television, and newspaper.

Maryland continued to work on a project designed to find an accurate method for estimating the size of a Maryland tobacco crop prior to sale. In that State, tobacco is cured at the farm for a year before it is sold. The average number of plants set per acre for the State was calculated on the basis of fractional acre counts made on a sample group of farms during the summer. During the winter, stripping sheds were visited and a predetermined number of tobacco plants were selected at random, stripped, and the tobacco weighed. After all the sample farms were visited, the average weight of tobacco produced per plant was calculated and multiplied by the average number of plants set per acre to obtain the average weight of tobacco produced per acre in the State.

The 1960 and 1961 pre-sale surveys resulted in an overestimate of 10.1 percent and 12.2 percent above the final estimate issued by the State statistician. Part of the reason for the overestimation was that the survey did not take into consideration such factors as mechanical losses between the farm and the market or for tobacco left unharvested in the field. If these losses are consistent, the fact that variance in overestimation between the two years was only 2.1 percent indicates that the survey method could well represent an improvement over the present system used to estimate Maryland tobacco production. Since comparable data was only available for two years, however, no definite conclusions could be reached.

OTHER COMMODITIES AND SERVICES

Projects to develop self-supporting certification programs for virus-free fruit and nut tree, vine and ornamental nursery stock were conducted in California, Michigan, Minnesota, and Oregon. Virus diseases in nursery stock lower the survival rate of the plants in the nursery row, and can impair the grade, quality, and productiveness of the final product by causing marks in fruit, uneven ripening, and undesirable fruit flavor. They also affect plants and trees by decreasing fruitfulness, causing abnormal growth and reducing hardiness. This is a matter of great economic concern to fruit, nut, and vine producers.

Virus is primarily spread by propagating new nursery stock from diseased parent sources. Visual inspection procedures cannot be relied upon to reveal the presence of viruses, particularly in young or dormant stock. A method commonly used to detect virus is called "indexing," where the material from the plant to be tested is grafted onto an indicator (guinea pig) plant which will indicate the presence of virus diseases.

Self-supporting certification programs in California for cherries and grapes, in Minnesota for stonefruits, and in Michigan for cherries and strawberries, were established as a result of work originally done under matching fund projects. Nurserymen who handle certified stock are usually able to receive premiums over noncertified stocks, and the fact that such stock is virus-free has helped to increase sales volume.

Michigan located virus-free clones of apples from which trees will be propagated and placed in new budwood blocks so as to be available if a certification program is later undertaken. Oregon did considerable indexing to insure detection of latent viruses in apple and pear varieties and heat treatments were used to provide a source of virus-free clones.

Minnesota did preliminary work leading to a possible certification program on strawberries and raspberries, and Michigan did the same on bramble plants and blueberries. In Minnesota, virus-free stocks of five commercially important strawberry varieties were secured and will be maintained and protected so they can be a clean source of plant material for eventual increase and distribution to the industry.

Timber and Timber Products

The marketing of timber and timber products received attention under projects conducted in Louisiana, Michigan, New York, Ohio, Pennsylvania, and West Virginia.

West Virginia performed a service for timber producers, loggers, and sawmill operators by employing a professional forester who helped uncover potential outlets for timber and developed and encouraged the use of market reports. He was also instrumental in increasing returns to farmers by encouraging them to follow better practices and to improve their facilities. These reports helped timber producers obtain competitive bids and market prices for their products and provided a basis for pricing major timber products at both regional and State levels. After initiation of these reports, there was evidence that they helped to minimize erratic price variations paid within the State for comparable timber products. Another desirable byproduct of the reports was their tendency to stimulate producer interest in timber improvement practices.

Pennsylvania set up procedures to make annual Christmas-tree surveys as of May 1 to measure new plantings and another immediately after harvest in January to measure the volume harvested and average prices received for trees sold. A complete enumeration of various species of standing commercial trees was made as to marketable age, size, and quantity.

A similar survey was made in Ohio and the final report revealed that, based on plantings, future supplies of Christmas trees would be heavy and growers were advised that they would need to give serious attention to quality and marketing techniques if they hoped to be competitive.

Work on timber and Christmas trees was done in cooperation with the Federal Extension Service, divisions of forestry, State departments of natural resources, forestry associations, Christmas tree grower associations, and experiment stations.

Maple Syrup and Honey

Marketing help was given to maple syrup producers in New York, Vermont, and Maine. Sugarmakers were encouraged and shown how to market a higher quality pure maple syrup, and promotion specialists in Vermont and Maine conducted programs to stimulate greater consumer interest in the pure product.

New York continued to provide direct marketing aids to producers through its maple products report which supplied information on weather conditions affecting production and the volume of production through the season. Sugar content of sap, production by areas, production methods, and other pertinent information was reported along with prices, demand, and movement data.

A number of Wisconsin beekeepers experienced difficulty obtaining top market price for their honey and matching fund personnel helped them conduct a "Honey Marketing Day" program. The object was to bring buyers and sellers together so they could negotiate transactions. The 1962 Honey Marketing Day

drew producers representing 1-1/2 million pounds where they made sales to buyers at prices 1/2 cent above those generally received on outside sales at that time.

Natural Crops

West Virginia helped develop potential outlets and marketing facilities on a number of natural crops such as ginseng, yellowroot, bloodroot, mayapple root, and native black walnuts. Promotion programs were also set up to induce buyer interest in ornamentals such as native hemlock, rhododendrum, and holly which can be used as base stock.

Kona Coffee

Hawaii continued a project to develop, test, and refine coffee standards and improve the quality of Kona coffee. A two-month pilot study for cherry coffee designed to provide practical information to be used in planning a full-scale State coffee inspection program was completed in January 1963. The original standards were revised to cover some changes on cherry color requirements to provide a measure of quality which could satisfactorily be used as a basis of payment on cherry coffee delivered to the mills.

As a result of work done under the project, the Hawaii Legislature appropriated funds to start a full-scale program of cherry coffee inspection during the 1963-64 fiscal year.

Cooperatives

Minnesota conducted cost and efficiency studies for cooperatives by obtaining certain basic data from other than dairy cooperatives. Considerable use was made of the information in assisting cooperatives with mergers, consolidations, and public relations work.

In Colorado, the Markets Division helped organize three new marketing cooperatives, assisted in changing the by-laws of 45 cooperatives to conform with the Revenue Act of 1962, and in changing articles and by-laws of 11 cooperatives to modernize their financial structure. They also worked with four organizations to expand their programs to improve the quality and quantity of services performed. Surveys were conducted for three pairs of cooperatives contemplating future mergers.

In cooperation with the extension service of Colorado State University and the Colorado Cooperative Council, State personnel helped arrange and conduct cooperative workshops to acquaint marketing co-op directors and managers with new and proven ideas on management. As a result of these workshops, many marketing organizations have adopted more realistic credit policies, posititve inventory control, and financial structures that will ultimately free them of debt.

Transportation

Savings from improved transportation services are doubly important to farmers because they are reflected both in prices received for agricultural products and in prices paid for farm production supplies. Projects aimed to assist producers, handlers, and manufacturers of agricultural products on transportation problems were conducted in Virginia and Louisiana.

In Virginia, a deficit grain-producing State, producers of livestock and poultry had an approximate $6-per-ton freight rate disadvantage in receiving grain from the Midwest. Matching fund transportation specialists worked closely with officials of a large railroad system in obtaining approval of their proposed reduced freight rates for grain. They prepared exhibits, economic data, intervening petitions, testimony, and supporting data for presentation before the Interstate Commerce Commission, and district and Federal courts. Numerous delays, including attempts to suspend rate reductions requested by railroads by court action were encountered but by mid-1963 rate reductions were obtained which were conservatively estimated to result in freight rate savings of approximately $2 million annually to Virginia grain receivers.

The marketing transportation agent in Louisiana participated in successful efforts to maintain exemptions for agricultural products and to reduce rates for grain and rice. Farmers were encouraged to grade tomatoes and sweetpotatoes at the farm to eliminate losses at the marketplace and the cost of hauling cull potatoes to and from the sales area.

Because transportation problems cross State lines, transportation specialists in the Southeastern States began holding regional meetings on a twice-a-year basis in order to discuss mutual problems and to coordinate their efforts to strive for rate adjustments favorable to the area as a whole.

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LIST OF MATCHING FUND PROJECTS, BY STATES
Fiscal Year 1963

ALABAMA

ALA-A-3 - Improving quality of fruits and vegetables on the Birmingham market (assisting producers selling on market in overcoming problems of uniformity of quality, grades, and packaging)

ALA-A-4 - Improving quality and expanding outlets for fruits and vegetables on the Dothan, Ala., market

ALA-A-5 - Improving quality and expanding outlets for fruits and vegetables on the Fort Payne, Ala., market

ALA-A-6 - Improving quality and expanding market outlets for poultry and eggs (assist producers, packers, and dealers on maintaining quality and improving efficiency of grading, handling, and marketing)

ALASKA

ALAS-A-2 - Improving quality and expanding outlets for Alaskan products by assisting in improving handling, storage, grading and marketing procedures (fruits and vegetables, dairy, livestock and meats, grain, and eggs)

ARKANSAS

ARK-A-1 - Improving quality and expanding market outlets for poultry and eggs (work with producers, packers, and retailers on proper methods of cleaning, grading, packaging, transporting, and storing eggs, assist operators of egg plants and poultry processing plants in plant layouts and equipment)

CALIFORNIA

CALIF-A-1 - Improving quality and packaging of agricultural products (grapes--soluable solids/acid ratio tests; avacodos--containers and count size studies; oranges--measuring low temperature damage; grapefruit--improve maturity determinations; fruit and vegetable containers--eliminating and combining standard containers and developing simplified identification system of containers)

CALIF-A-3 - Certification of virus-free nursery stock (peaches, nectarines, plums, prunes, apricots, apples, pears, quinces, almonds, roses)

CALIF-B-1 - Ascertaining problems and opportunities with respect to the expansion of markets and the improvement of marketing practices for agricultural products (through improved packaging, labeling, handling, and merchandising)

CALIF-D-1 - New basic information for fruits and nuts, bush berries and raisins

CALIF-D-5 - To design, develop, and test objective sampling methods of forecasting and estimating the production of walnuts

CALIF-D-7 - To design, develop, and test objective sampling methods for forecasting and estimating the production of almonds

COLORADO

COLO-A-1 - Improve product quality and marketing practices for farm products (fruits and vegetables, poultry and eggs, livestock, milk; assist in organizing and supervising cooperative associations)

COLO-D-1 - Determination of quality of the Colorado wheat crop by areas and quantities

CONNECTICUT

CONN-A-1 - Maintaining and improving quality of milk and milk products (eliminating or correcting causes of off flavor in milk)

FLORIDA

FLA-A-1 - Maintain or improve quality and expand market outlets for poultry and eggs (work with retail stores, restaurants, etc. in expanding sales; television and radio appearances, talks on nutrition)

FLA-A-2 - Developing new or improved equipment and methods for sampling and determining pounds solids of oranges for processing in Florida

FLA-D-4 - Establishing an improved marketing information service for the livestock, dairy, and poultry industries (monthly information bulletins, surveys of beef cattle numbers, commercial laying flocks, and commercial dairies)

FLA-D-5 - Developing procedures for making both annual and quinquennial forecasts of citrus production

GEORGIA

GA-A-6 - Improving quality and expanding outlets for grain, cotton seed, peanut seed and corn meal (assisting producers, processors, and dealers in adopting best methods of handling, storing, and processing and in use of efficient equipment and facilities)

GA-A-7 - Maintaining quality and expanding marketing outlets for fruits and vegetables, nuts, and tobacco (assistance to producers, packers, and processors on quality problems, grades, packaging and merchandising methods; planning and evaluating promotional efforts; and conducting trade surveys)

GA-A-8 - Improving quality and expanding market outlets for poultry and eggs (assistance in quality improvement, merchandising methods, planning and evaluation of promotional programs, assistance in plant layout and equipment)

GA-D-3 - State and local agricultural data and market information (poultry and eggs, commercial vegetables)

HAWAII

HI-A-2 - Development of grades and standards for Kona coffee (preliminary standards developed, current work on improving quality)

ILLINOIS

ILL-A-2 - Improving quality control and securing the adoption of improved marketing methods. Advise industry concerning the need for new handling facilities, and expanding outlets and new markets for poultry products

ILL-B-3 - Expansion of markets for Illinois apples and peaches through an informational program

ILL-C-2 - Technical assistance to marketing agencies in improving operating efficiency (fruits and vegetables)

ILL-C-3 - The determination of need for a program to certify grain moisture testing devices for accuracy

ILL-C-4 - Develop improvements, extend coverage and evaluate the Federal-State Livestock Market News program. Reduce costs through improving efficiency of marketing facilities for livestock products

ILL-D-4 - Providing information necessary to the establishment of a program to develop a market news reporting service for grain sold through other than terminal markets

ILL-D-5 - Providing new basic data necessary to planning modern marketing programs and facility needs

ILL-D-6 - Collecting and disseminating new basic data on supplies, utilization, movement, prices and facilities for marketing crops, livestock and other products

INDIANA

IND-A-3 - Improving quality of agricultural products in marketing channels (improve flavor of dairy products by working with processors and plant personnel on flavor evaluation and processing techniques; provide technical assistance to food processors in adopting improved methods and equipment; assist with annual canners technical school; and develop and disseminate to florist industry technical and economic information)

IND-B-2 - Expanding outlets for fruits and vegetables (fruit and vegetable consumer information program, fruit and vegetable supply reports)

IND-C-2 - Improving efficiency and reducing costs of agricultural marketing (work with livestock packing plant management on handling and marketing practices, labor efficiency and plant costs; assist dairy plant managers to apply economic-engineering techniques to plant operations; assist tomato processing firms in identifying and reducing high cost elements; apply business management principles to roadside market operations; and assist operators of grain elevators and feed mills in applying cost reducing principles)

IND-D-5 - Collecting and disseminating marketing information (fruits and vegetables, surveys on soybean varieties)

IOWA

IOWA-A-1 - Improving quality of and market acceptance for agricultural products (red meats, eggs and dairy products--restaurant and retail store promotions, distribution of buyer directories, study of packaging, maintenance and transportation of products, evaluation of promotional efforts, expand programs of quality improvement and control)

IOWA-D-2 - New basic data for livestock, dairy, eggs, corn and soybeans

KANSAS

KAN-A-2 - Improving quality of milk and milk products through better handling, manufacturing and processing practices

KAN-B-1 - Expanding market outlets for fruits and vegetables, poultry and eggs, livestock and meat, wheat and wheat products, and other agricultural products (meat grading and certification of meat for State institutions, meat cutting demonstrations, demonstrations for School Lunch personnel in preparing and serving meat and wheat products; improving efficiency of plant facilities and retail meat departments; assist in establishing central meat processing facilities; promotion of rolled wheat and bulgur, quality control program for shell eggs; turkey promotions)

KAN-D-1 - New market information and data (wheat quality and variety surveys, marketing channels of beef cattle, sources of supplies, beef cattle price surveys, egg prices by grade, poultry prices by class)

KENTUCKY

KY-A-1 - Maintaining or improving quality of agricultural products (egg grading schools, radio and television programs, poultry handling, planning and conducting livestock sales, improving quality and grade standardization, correlation of live grade to carcass grade, develop fruit and vegetable quality marketing programs; promote

uniform marketing of tobacco; assist dairy plants in adoption of Federal standards; and carrying on service program for improving plant layouts)

KY-D-2 - Improving basic agricultural data and market information (poultry and eggs, soybeans, tobacco)

LOUISIANA

LA-A-3 - Maintaining or improving quality of poultry and eggs, fruits and vegetables, livestock, sweet potatoes, grain, cotton, and livestock (assist producers, processors, handlers and retailers in the handling, storing, transporting, packaging of poultry and eggs, sweetpotato sizing and grading assistance, grain quality improvement programs, technical assistance to cotton gins on equipment, organizing livestock sales)

LA-B-2 - Improve distribution methods and expand market outlets for fruits, vegetables, livestock, dairy and other farm products (prepare and present informational materials on radio and television, conduct special promotions for seasonal surplus, issue commodity availability reports)

LA-C-3 - Provide technical assistance to commodity groups on efficient plant facilities, equipment and operations, including improving quality, proper grading, storing, transporting, etc. (cotton, poultry and eggs, rice, fruits and vegetables, livestock)

LA-C-4 - Improve handling and facilities in marketing Louisiana produce

LA-D-2 - Assemble and disseminate special market information (produce availability reports and timber market report)

MAINE

ME-B-1 - Expanding market outlets for Maine agricultural products (potatoes, milk, meats, poultry and eggs, apples, blueberries, maple syrup and dry beans--working closely with industry groups in promoting commodities through advertising campaigns, meetings, exhibits, working with processors and retailers; providing assistance in quality control programs, preparing and disseminating commodity information materials)

ME-C-1 - Maintaining the quality and improving the marketing efficiency of Maine agricultural products (improving efficiency of retail produce departments, wholesale produce warehouse operations, assist in establishing centralized potato packing plants; evaluate and make recommendations for improved operational methods, facilities, and displays)

MARYLAND

MD-A-1 - Improve handling methods, practices and facilities for marketing grain (work with producers and dealers on grading, quality, storage, and handling, and equipment and facilities)

MD-A-2 - Providing assistance and service to canning and processing plants (statistical quality control program for poultry processing plants to reduce percentage of downgraded broilers due to bruises and other handling defects)

MD-B-1 - Improve marketing and merchandising practices, and expand outlets for fruits and vegetables (preparation and issuance of market news letter, preparation of food specifications for institutional users, assist strawberry growers and shippers to improve marketing of quality berries, assist snap bean growers on quality problems, continue work with Eastern Shore Sweet Potato Association to improve quality of pack)

MD-B-2 - Improving livestock grading, marketing and handling practices (livestock sales)

MD-C-2 - Assisting marketing agencies to reduce costs and improve efficiency through adoption of most advantageous transportation advances and means (flow patterns of agricultural commodities, packaging, and loading)

MD-D-1 - New basic information for agricultural products (sweetpotatoes and milk)

MASSACHUSETTS

MASS-A-1 - Maintaining and improving quality of dairy products, eggs, and other agricultural products (correcting and eliminating causes of off flavors in milk; assisting egg producers, processors, and retailers on proper quality maintenance and improved handling operations and marketing)

MASS-D-1 - Collecting and disseminating information on market supplies of agricultural products (acreage, yield and prices for 46 vegetables on county basis)

MICHIGAN

MICH-A-1 - Certification of virus-free nursery stock (raspberries, cherries, plums, and peaches)

MICH-A-2 - Improve handling, grading and quality maintenance practices for agricultural products (fruits and vegetables, livestock and meats--work with fruit and vegetable industry on grades and quality improvement, expand beef carcass evaluation program, prepare specifications for red meats for private and institutional users)

MICH-D-3 - Special marketing information (fruit tree counts, surveys on vegetable acreages, cattle on feed and beef breeding herds)

MINNESOTA

MINN-A-2 - Improving quality of agricultural products (surveys to determine adequacy of facilities and management practices of egg producers

marketing under the Minnesota Quality Egg Program, assist in improving efficiency of egg handling operations; quality evaluation of products in dairy processing plants; assist honey producers with grading and facilities; upgrading quality of potatoes)

MINN-A-3 - Certification of virus-free nursery stock (plums, cherries, apples, strawberries, and raspberries)

MINN-B-1 - Expanding market outlets for agricultural products (cereal crops, dairy, fruits and vegetables, livestock, forest products-- promotional programs on radio and television, merchandising clinics, preparing and issuing informational commodity material)

MINN-B-2 - Coordinating the marketing and expanding market outlets for poultry and eggs (assist producers in obtaining and developing local outlets, pooling supplies for specific markets, consumer education information on radio and television, promotion of turkeys and turkey parts)

MINN-C-1 - Assisting marketing firms improve operating efficiency and marketing methods (based on studies of supply, volume and potential development, assist cooperative organization in mergers)

MINN-D-2 - New basic data for turkeys, grain, livestock, poultry and eggs, and maple syrup

MISSISSIPPI

MISS-A-3 - Improving quality of meat, poultry and eggs, fruits and vegetables, dairy, cotton, livestock, grain and other products (assist processors of commercial poultry and red meats, not under USDA supervision, with quality maintenance problems, and providing technical assistance in improving facilities, equipment and layout; assist in egg marketing activities from producer to consumer level; assist milk producers and processing plants with quality problems; work with grain producers and handlers on grade factors, marketing, facilities)

MISS-B-2 - Expanding market outlets for fresh fruits and vegetables (assist producers in improving uniformity of quality, grades, and packaging of products offered for sale on farmers markets)

MISS-D-2 - Provide additional basic data and marketing information (dairy, eggs, beef cattle, and grain)

MISSOURI

MO-B-1 - Expanding market outlets for agricultural products (fruits and vegetables, watermelons, strawberries--marketing information reports on availability of supplies; work with industry groups on merchandising programs)

MO-D-3 - Establishing a marketing intelligence service covering farm products at country point level (poultry and eggs, livestock, watermelons, and apples)

MONTANA

MONT-A-1 - Maintaining and improving quality and expanding market outlets for dairy products, poultry and eggs (work with egg producers in meeting requirements of Quality Egg Program for marketing eggs under Gold Seal label; improve quality of dairy products through quality control procedures in processing and handling)

MONT-D-2 - New basic information for wheat and livestock (wheat variety and quality survey, and cattle movements within and out of State)

NEBRASKA

NEB-D-2 - Providing basic data and marketing information (surveys on wheat variety and quality, grain storage, safflower supplies and prices, and dry bean quality)

NEW JERSEY

NJ-B-2 - Expanding market outlets for farm products through quality improvement (fruits and vegetables, poultry and eggs--work with fruit and vegetable commodity promotion councils in market expansion programs; assist egg and poultry meat producers on quality control; provide assistance to operators of roadside markets on quality, merchandising, and facilities)

NJ-C-1 - Improving marketing facilities and methods of handling farm products (assist with development of proposed food distribution center for northern New Jersey; work with egg handling plants in plant layout and equipment; improve efficiency of wholesale and retail operations)

NJ-D-1 - To provide new basic data and marketing information on fruits and vegetables, roadside markets, poultry, and livestock)

NEW MEXICO

NM-A-1 - Quality maintenance of poultry and eggs, fruits and vegetables, and dairy (assist producers and processing plants in detection of pesticides and antibiotics in processed dairy products and market milk; milk flavor program; work with growers in grading and shipping quality fruits and vegetables; assist egg producers with new and better methods of handling eggs and improving facilities)

NM-B-1 - Expanding market outlets for poultry and eggs, fruits and vegetables, and other agricultural products (provide growers and shippers with produce buyer guides, assist peanut commission in promoting Valencia type peanuts)

NM-D-1 - Collecting and disseminating basic agricultural statistics by counties

NEW YORK

NY-B-1 - Expanding outlets for agricultural products (fruits and vegetables, poultry and eggs, and dairy--work with all segments of commodity industries in advancing grading, packaging and quality marketing of agricultural products)

NY-C-1 - Improving facilities and marketing operations through assistance to producers and marketing agencies (provide technical assistance in improving efficiency of wholesale and retail operations)

NY-D-1 - New basic data for fruits and vegetables, dairy products

NORTH CAROLINA

NC-B-3 - Improving quality and expanding outlets for fruits and vegetables, poultry and eggs, dairy, livestock, and tobacco (assist small producers with contractual arrangements with processors for processing type vegetables, increase consumption of milk through talks before school and other groups; assist livestock producers in improving quality and increasing sales through organized marketing; assist producers, processors and others on poultry and egg quality, grading, and packaging and marketing; work with tobacco growers on proper farm sorting to meet grades, market preparation and providing marketing information)

NC-C-3 - Improving grain and seed facilities, processing, and handling methods to reduce costs and expand outlets

NC-C-4 - Providing technical assistance to marketing agencies (cotton, grain, seed, fruits and vegetables, poultry and eggs--assistance in selecting and installing equipment, and instructions on its maintenance for cotton ginning; facilities and equipment for poultry and egg processing plants; assist corn mills in maintaning quality and improving plant layouts and equipment)

NC-D-2 - Special crop and livestock estimates and reports (wheat and small grains, potatoes)

NORTH DAKOTA

ND-A-3 - Encouraging use of grades and standards, and assisting in developing better quality maintenance for dairy products (emphasis on sediment testing and standards, selling on grade basis, flavor control, promotional programs)

ND-A-4 - Demonstrating methods of preventing deterioration and contamination of grain in storage (demonstrations on proper use of rodenticides and methods of rodent proofing premises)

ND-B-1 - Improving marketing methods and expanding outlets for Red River Valley potatoes (grower and shipper contacts to explain market

requirements as to quality, packaging, etc.; assist in potato promotions, and provide industry with supply information)

OHIO

OHIO-D-2 - Providing basic data (pig survey, timber products, Christmas trees)

OKLAHOMA

OKLA-A-1 - Improving quality and expanding market outlets (eggs--consumer level promotional programs)

OKLA-D-2 - Collection and dissemination of marketing information for agricultural commodities

OREGON

ORE-A-2 - Quality evaluation of potatoes processed or handled in different ways after harvest (tests of specific gravity separated potatoes)

ORE-A-3 - Preserving seed quality through improved handling and packaging (determining viability of forage seeds in common packages under commercial storage conditions and evaluation of various packaging materials for preserving seed viability under different storage conditions and in shipments abroad)

ORE-A-6 - Development of methodology for certification of virus-free fruit, nut tree and vine nursery stocks (cherries, pears, apples)

ORE-C-1 - Determining best procedures for securing the adoption of research results by processing plants and other marketing agencies

ORE-D-1 - Develop objective procedures for making estimates of the filbert crop

ORE-D-3 - Fruit and nut tree survey

PENNSYLVANIA

PA-B-1 - Expanding outlets for farm products through promotional programs and quality improvement (livestock grading, dairy herd replacement study, mushroom survey, buyers' guide)

PA-C-1 - Reducing costs of marketing by improving marketing facilities, equipment, and methods of assembling, grading, packaging, storing, handling and transporting farm products (assistance to farmer retail markets and in improvements of auction facilities; utilization study of eggs by large institutions to find corrective measure of quality maintenance)

PA-D-2 - To provide additional basic data and marketing information (dairy, Christmas trees, fruit tree count, mushroom data)

SOUTH CAROLINA

SC-A-1 - Improvement and maintenance of quality on South Carolina farm products (quality determinations of produce offered on Columbia market)

SC-C-1 - Improving marketing facilities for South Carolina agricultural products (evaluation of processing facilities as outlets for products; evaluation of facilities, methods and potentials in expansion and promotion of export markets)

SC-D-2 - Collection and dissemination of marketing information on agricultural products (poultry, timber, peach tree yield survey)

SOUTH DAKOTA

SD-D-2 - Obtaining and analyzing new basic information (crops, livestock, dairy, poultry and eggs)

TENNESSEE

TENN-A-1 - Improve handling and grading practices for poultry and eggs (egg grading demonstrations, assistance in improving operating efficiency of poultry processing plants)

TENN-B-1 - Improve marketing practices and expand outlets for livestock and livestock products (organizing and assisting in conducting feeder pig and calf sales, hog carcass demonstrations, improved veal marketing program)

TEXAS

TEX-A-2 - Improving quality and expanding market outlets for agricultural products (availability reports for fruits and vegetables, watermelons, sweetpotatoes; certified seed program; egg grading schools; improved merchandising of dairy products; quality program for roses)

VERMONT

VT-A-1 - Expanding marketing and improving quality of Vermont fluid milk (correcting causes for off flavor in milk)

VT-B-1 - Developing promotional and quality programs to expand market outlets for maple syrup (improvement of quality and packaging of maple products and expanding consumer education through various news media)

VIRGINIA

VA-A-2 - Improving or maintaining quality through adoption of proper grading, handling, buying, and selling practices of farm products (assisting with special livestock sales, quality; quality programs for sweetpotatoes, sweet corn, watermelons, apples and eggs)

VA-B-3 - Improving distribution practices and increasing the effectiveness of promotional activities (livestock sales, expansion of direct

method of selling poultry to retail stores, dealer service programs for apples and sweetpotatoes)

VA-C-4 - Improving market facilities, equipment and methods of handling, storing, and transporting farm products (apple packinghouses, egg marketing firms, grain facilities, transportation studies)

VA-D-2 - Providing new and additional market information (livestock, tobacco, fruits and vegetables and transportation)

WASHINGTON

WASH-A-1 - Development of methodology for certification of virus-free nursery stock

WASH-A-2 - Developing standards and techniques for sampling and testing for sediment in farm bulk milk tanks

WASH-B-1 - Improve grading, handling, packing, and other marketing practices, and develop market expansion programs (improving displays of retail dairy departments to expand sales, assist with merchandising programs for frozen raspberries, provide assistance to commodity commissions)

WASH-C-1 - Improvement of quality and processing of Washington broccoli

WASH-D-1 - Providing basic and related data on the agriculture of each of the 39 counties of the State (plus fruit tree census)

WEST VIRGINIA

WVA-B-2 - Expand market outlets for livestock, fruits, vegetables, poultry and eggs, tobacco and timber (emphasis on quality, packaging, facilities and practices; providing marketing information; organizing livestock sales)

WVA-D-2 - Basic data for dairy and forest products

WISCONSIN

WIS-A-1 - Improve quality and handling methods for milk and provide technical assistance to dairy processing plants

WIS-C-1 - Provide technical assistance to producers, manufacturers, and distributors in marketing and business organization

WIS-D-2 - New basic data (special market information reports for apples, lettuce and tobacco)

WIS-D-3 - Collecting and disseminating market information (market trend data for dairy and livestock; special reports on fruit and tree counts and milk data)

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